

DATE: 3-30-88

FROM Kevin J. Moss

TO: RCRA FILES - IL Permitting

RE: Visual Site Inspection at Van Tran Elec

A Visual Site Inspection (VSI) for Van Tran Electric (VT) was conducted on 3-25-88. Representing VT was Steve Parke from their HQ in Waco, Texas. Also present was Chuck Wilk (USEPA) and Thomas Miller from the IEPA. Mr. Miller will be the on-site clean-up coordinator. We met in an office at VT for approximately one hour prior to the actual site visit. Mr. Parke was most cooperative and seemed anxious to begin closure activity as VT has absolutely no further plans for this site. Real Estate signs are present at the facility. I reiterated that I was there to address past SWMU activity and how this might affect the facility and that the IEPA will handle the clean-up and closure of the HWMU's at the facility. VT has never submitted the Certification Regarding SWMU Questionnaire. I brought this form with me and verbally addressed it. No additional SWMUs were identified. The following specific questions were addressed:

*Mr. Parke claimed that all the PCB contamination resulted from the improper storage of "empty" Askeral (a PCB containing transformer fluid) drums in an area behind a north storage building. He added that the PCB contamination found throughout the facility is the result of the natural drainage carrying along and distributing the PCBs. (Note: Post VSI - In reviewing the site map and distribution of PCB contamination I am not convinced that natural drainage can fully explain the facilities contamination)

In a related matter:

*In 1975 VT had a 14000 gallon spill from two tanks (6000 and 8000 gallons) of Mineral Oil. This occurred while the facility worker were on strike. Mr. Parke said the spill was the result of vandalism but that no person(s) were ever charged. Mr. Parke said the contents of the tanks were Mineral Oil used in transformers and that it is similar to #2 Diesel Fuel. He Added that the Coast Guard responded to the spill and that there tests showed that no PCBs were present. (NOTE: Post VSI - Chuck Reeter of the IEPA said that his records indicate that PCBs were present in the tanks, but all samples showed PCBs below 50ppm.)

In a Related Matter:

*Mr. Parke claims that the PCBs in the pit was a result of using pcb contaminated soil from the empty drum storage to construct a berm around the Pit. This berm material was then pushed into the pit after VT excavated 5 drums of materials from the pit in an attempt to remove the solvent contamination. (NOTE: Post VSI - in reviewing the amount and depth of contamination and after talking with Chuck Reeter of the IEPA it would appear that this would not explain the contamination satisfactorily, see below.)

In a Related matter:

*IEPA reports indicate that VT used the "empty" PCB drums to collect the solvents used to clean transformers and that this material was then emptied into the pit. Mr. Parke admits that solvents were disposed of in the pit but that the PCB drums were not used and that all the transformers were tested for PCBs prior

to servicing and that if they contained PCBs the warranty was void and they would not service these transformers.

*The trichloro chloroform and Mthhylene Chloride reported used to clean out emptied barrels was denied by Mr Parke. He was not familar with these chemicals but said that what they were probabl;y used for was a coolant in their manufacturing process. He said no waste was generated from this as the material evaporated in the process.

*Of all the tanks on site only the *000 galoon mineral oil tank is left. All the other tanks have been dismantled or excavasted. This includes the diesel and gasoline undergrtound storage tanks and the used transformer oil tank.

*Mr. Parke claimed no off-site contamination. However off-site sampling in the drainage ditches show PCB contamination. Groundwater contsamination has yet to be determined.

Site Visit

*We began by walking through the building connected to the office. The area was relatively clean with any materials of fixtures nearly arranged.

*We walked by a concrete slab which was used to burn copper coils. Apparently the coils had PCBs on them anf this area now has PCB contasmintion.

*Next we visisted the drum storage area. The building is padlocked. Inside were several 55 gsallon barrels and a Five gallon drum. Five barrels were frpom the pit excavation, a partially full 55 gallon drum of spent slovents and the five gallon buckets. The barrels were in good condition with plactic or rubber cover.

*We walked around to the back (north side iof the facility) from here the pit and the empty drum stroage copuld be seen. The pit is fenced off and has been sodded. The drum area is barren. Mr. Parke pointed out tghe site drainage trying to illustrate how the PCB contamination migrated.

*Next we walked around to the east side to the front of the facility. We observed ther drainage and how the PCBs would end up in the drainage ditches along the road.

*Finally we went by the Mineral oil tank. Only one tank remains. There is staining inside the contanmnet area.

At the end of the site visit we met in the office to discuss what the next step would be. I expalined that if I thought it necessary The usepa would conduct a sampling visit, although I didn't think it would be necarrary since the IEPA would most likely address teh entire facility. I told him I would write a final RFA report and that he could get a copy of this if he wrote

and asked for a copy.

DATE: 3-30-88

FROM: KEVIN J. MOSS

TO: RCRA FILES - IL PERMITTING

RE: VISUAL SITE INSPECTION AT VAN TRAN ELECTRIC
ILD 981 093 628

A Visual Site Inspection (VSI) for Van Tran Electric (hereafter VT) was conducted on 3-25-88. The site is presenting shut down with apparently no prospect for future operation under Van Tran ownership. For Sale signs are posted at the site. Representing VT was Steve Parke from their HQ in Waco, Texas. Also present were Chuck Wilk (USEPA Region V, IL Permitting) and Thomas Miller from the IEPA. Mr. Miller will be the on site clean-up coordinator. We began the visit by meeting in an office at VT for approximately 1 hour.

In the office portion of the visit:

- 1) I reiterated that I was there to address past SWMU activity, as related to the HSWA, and how this might effect the facility. The IEPA will handle the clean-up and closure of the HWMUs and other contaminated areas of the facility through a state superfund action.
- 2) I presented the "Certification Regarding Potential Releases From Solid Waste Management Units" to Mr. Parke. VT had never submitted this form, so I asked if we could address this form verbally. Mr. Parke Agreed. No additional SWMUs were identified.
- 3) Mr. Parke claimed that the PCB contamination at the site resulted from the improper storage of "empty" Askeral (a PCB containing transformer fluid) drums in an area behind a north storage building. He added that the PCB contamination found throughout the facilities property (off site also) is the result of the natural drainage carrying the PCBs away from the shed area contamination. (NOTE: Post VSI - In reviewing the site map and distribution of the PCB contamination I am not convinced that natural drainage can fully explain the contamination found throughout the facility grounds). In a related matter:
 - a) In 1975 VT had a 14000 gallon mineral oil spill from two tanks, (6000 and 8000 gallons). This spill occurred while the facility workers were on strike. Mr. Parke said the spill was the result of vandalism but that no person(s) were ever charged. Mr. Parke said the mineral oil is used in transformers and that it is similar to #2 Diesel fuel. He added that the Coast Guard responded to the spill and that their tests showed that no PCBs were present. (NOTE: Post VSI - Chuck Reeter of the IEPA said that his records indicate that PCBs were present in the tanks, but that all samples indicated PCBs below 50ppm - TSCA clean up level). In a related matter:
 - b) Mr Parke claims that the PCBs in the Pit was a result of using PCB contaminated soil from the empty drum storage area to construct a berm around the Pit. This bermed material was then pushed into the pit after VT excavated 5 drums of materials from the Pit in an attempt to remove the solvent contamination. (NOTE: Post VSI - In reviewing the amount and

depth of the contamination, and talking with Mr. Reeter, it would appear that this explanation could not satisfactorily account for the degree of contamination, (see below). In a related matter:

c) IEPA reports indicate that VT used the "empty" PCB drums to collect the solvents used to clean the transformers and that this material, solvents and some PCBs, were then emptied into the Pit. Mr. Parke admits that solvents were disposed of in the Pit but that the PCB drums were not used. Furthermore, Mr. Parke said the PCB contamination could not have been the result of disposing spent solvents, from the cleaning of PCB transformers, in the Pit. All transformers were reportedly tested for PCBs prior to servicing and that if they contained PCBs the warranty would be void and VT would not service these transformers.

4) Trichloroethane Methyl Chloroform and Methylene Chloride, reportedly used to clean out emptied barrels, was denied by Mr. Parke. He was not familiar with these chemicals, but said that what they were probably used for was coolant in their manufacturing process. He said no waste was generated from this as the material evaporated in the process.

5) Of all the tanks on site only one mineral oil tank remains. All the other tanks have been dismantled or excavated. This includes the diesel and gasoline underground storage tanks and the used transformer oil tank.

6) Mr. Parke claimed no off site contamination. However, documentation does show that off site sampling, in a drainage ditch, showed PCB contamination. Ground water contamination has yet to be determined.

SITE VISIT

1) We began by walking through the manufacturing building connected to the office. The area was relatively clean with any materials and fixtures neatly arranged.

This needs to be confirmed
2) We walked by a concrete slab which was used to burn copper coils from the transformers. Apparently the coils had PCBs on them and this area is now PCB contaminated. There were also several drums of decontamination waste in this area. This waste was from the limited sampling which has already occurred at the facility.

3) We visited the drum storage area. The building is padlocked. Inside were several 55 gallon drums and a five gallon bucket. There were five barrels from the pit excavation, one partially full 55 gallon drum of spent solvents and a five gallon bucket of a solvent contaminated clay filter medium. The area and the drums were well maintained.

4) We walked around to the back (north side of the facility), from here the pit and the old drum storage area could be seen. The pit is fenced off and has been sodded. The drum area is barren. Mr. Parke pointed out the site drainage, trying to illustrate how the PCB contamination migrated.

5) We walked around the east side of the site to the front of the facility. Again the drainage was observed and it could be seen how the natural drainage would carry contamination to the front of the property.

6)Lastly we visited the Mineral tank area. Only one tank remains. There is staining inside the containment area.

At the end of the site visit we met in the office to discuss what the next step would be. I explained that if I thought it necessary the U.S. EPA would conduct a sampling visit, although I didn't think it would be necessary since the IEPA superfund action would most likely address the entire facility. I told him I would write a final RFA report and that he could get a copy of this if he wrote and requested a copy.

RFA FINAL SUMMARY AND RECOMMENDATION

VAN TRAN ELECTRIC CORP. - VANDALIA FACILITY
VANDALIA, ILLINOIS
ILD981093628

MARCH 28, 1988
KEVIN J. MOSS, TPS

A. General Information

The Van Tran facility in Vandalia, Illinois is completely shut-down with no plans for future operations (The Van Tran HQ facility in Waco, Texas is handling the Vandalia site affairs). The Vandalia site used to manufacture 5 to 5000KV transformers and operate a warranty repair section for their products. Van Tran operated at this site from 1964 to September 1987. The facility consists of two main buildings, two smaller buildings, and four outdoor tanks, three for storage of product transformer oil and one for used transformer oil.

The facility has documented releases of PCB's and several solvents. Metals have also been found on-site. The entire facility is contaminated to some degree with the highest concentrations in a waste pit in the northern part of the facility.

The state EPA is handling the closure of this facility. Negotiations are presently ongoing between IEPA and Van Tran to finalize the closure plan. There do not appear to be any SWMU's at this facility which ~~are not being addressed by the IEPA.~~ ^{USEPA}

The only action which needs to be taken by the USEPA at this time is to work with the IEPA to insure that a proper and complete closure is accomplished.

B. Location Characteristics

Van Tran is located at 1505 Van Tran Ave. in Vandaila, Illinois. The facility has a gradual slope to the east and south. The north boundary is higher in elevation with a bermed area south of a railroad line. The property is bounded to the east and west by industrial facilities, to the south by Van Tran Ave., and to the north by railroad tracks. The areas immediately surrounding the facility are industrial, however, the population becomes residential within a short distance, with schools, a nurcing home, and parks nearby.

C. Site Geology/hydrogeology

Several borings and monitoring wells have been completed at the site. There are seven monitoring wells on-site with negotiations ongoing between IEPA and Van tran to install two more in the vicinity of the pit. Originally it was thought that the groundwater flow was to the north, however, then just the

opposite was thought to be true. The most recent determination is that it has not yet been accurately determined and that there may be a groundwater divide at the facility. No groundwater contamination has at yet been detected, however, the wells were not placed as to optimize detection of a release, therefore the need for the eighth wells as discussed above.

E. Waste Characterization

Wastes produced by Van Tran include: solvents, paint, and PCB's. Several solvents were used to clean transformer tanks and equipment. These included: MEK, toluene, and xylene. Benzene has also been detected in soil samples. Steve Park of Van Tran reported that benzene was never used on site and is probably present as a contaminant of the other solvents.

Waste paints (reportedly non-leaded) were generated from a spray booth. The overspray was collected in a tank, drummed and allowed to dry in the pit.

The PCB's were not intended to be handled as a waste, but were released to the environment through improper handling techniques. An area just north of the northwest storage shed accumulated "empty" Askeral (PCB containing transformer oil) drums. The drums eventually released any remaining Askeral to the surrounding area and into the site drainage.

Filter media from the spray paint unit and from the recovery of solvents were also identified as waste streams. The spray paint filters were used to collect overspray as part of emissions control. The filters were collected and landfilled. The solvent recovery system was two five gallon buckets, one placed atop the other with filter media and a hole in the bottom of the top bucket. The solvent and transformer oil, from the cleaning of transformers, was placed in the top bucket with the filter media catching the oil but allowing the solvent to percolate through.

F. Individual Units

1. Pit

For approximately 13 years (pre 1985) Van Tran used a pit to discard spent solvents and paint waste. The pit is located in the northwestern portion of the property (attachment 1). The pit has since been filled in and sodded by Van Tran. A fence has been erected around the pit. This pit was approximately a 10' diameter circle with a several inch high bermed area. Van Tran acknowledged the disposal of the solvents and paint waste in the pit, however, content that the PCB's, were not intentionally placed in the pit. According to Steve Parke, the material used to construct the berm was taken from the PCB empty drum storage area. The berm was then pushed into the pit. When Van Tran discontinued this practice, in an attempt to rectify the problem Van Tran had some of its employees remove the top couple feet of soil from the pit. This soil was drummed and is

still on-site in a storage shed. IEPA inspected these drums and noted a strong solvent odor when the drums were opened. The pit still has very high levels of solvents and PCB contamination. Samples taken from the pit from depths up to 8' have reduced but significant levels of contamination.

Recommendation: No further action need be taken

Reason for recommendation: 1) The pit and it's contamination are well documented. 2) The IEPA is pursuing closure of this pit. 3) Van Tran is being cooperative in the state's efforts to properly close the pit.

2) Drum storage area

Five drums of material removed from the pit, a five gallon bucket of solvent filter medium and a partially full 55 gallon drum of are presently being stored in a shed in the north part of the facility.

Recommendation: No further action need be taken

Reason for recommendation: IEPA will supervise the removal of these drums.

Concerns: The drums should be checked for leaks and the floor should be checked for cracks to ensure that any releases would not escape to the subsurface.

3) Paint spray booth

The paint spray booth was used to paint transformers. Waste solvents, paint, and air emissions control filters were generated in this area.

Concerns: Confirm that this area has been cleaned and that all wastes have been removed. Inspect the collection tank to ensure that no releases could have occurred and that no residues are present.

4) Used transformer oil tank

This tank has been dismantled and removed from the site.

Concerns: Confirm that no releases occurred from this tank.

5) Mineral oil tanks

These tanks reportedly contained only mineral oil (per Steve Parke), however the IEPA said they have found PCBs mixed with the Mineral Oil. One of these tanks has been dismantled. Steve Parke said the IEPA has sampled the tanks and the surrounding area. Parts of the area inside the containment wall is stained.

Concerns: Confirm that the IEPA has sampled in this area and that the staining inside the containment was present during previous inspections and sampled and addressed.

6) Underground storage tanks

Two underground storage tanks were used on site to store diesel fuel and gasoline. Steve Parke stated that the tanks have been removed.

Concerns: Confirm that these tanks have been removed.

7) Empty PCB drum storage area

Just north of the drum storage shed is the area where empty Askeral drums were stored. According to Steve Parke this is the source of the PCB contamination on site.

Concerns: 1) Address clean up of the soils in this area, and 2) with drainage running south and east it is possible that high PCB contamination may be present under the storage shed building.

8) Facility

As discussed in the introduction, the entire facility is contaminated to some degree with PCBs, solvents, and metals.

Concerns: Confirm that the entire facility has been cleaned to acceptable concentrations.

9) Off-site contamination

Off-site PCB contamination has been documented from a drainage system leading off-site

Concerns: That the off-site contamination will be addressed.

Final Recommendations

The IEPA is handling the clean up and closure of the facility. A final closure plan has not been approved, for the entire facility, at the time of this report. I am confident that the facility will be cleaned to acceptable levels. The concerns noted above are listed for IEPA information to consider during clean up and closure.

Following PR 2051,
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RFA FINAL SUMMARY AND RECOMMENDATION

VAN TRAN ELECTRIC CORP. - VANDALIA FACILITY
VANDALIA, ILLINOIS
ILD981093628

MARCH 28, 1988
KEVIN J. MOSS, Il Permitting Section

A. General Information

The Van Tran facility in Vandalia, Illinois is presently shut down with apparently no plans for future operations; "For Sale" signs are posted at the facility. The Van Tran HQ facility in Waco, Texas is handling the Vandalia site affairs. The Vandalia site had manufactured 5 to 5000KV transformers and operated a warranty repair section for their products. Van Tran operated at this site from 1964 to September 1987. The facility consisted of two main buildings, two smaller buildings, and four outdoor tanks, three for storage of product transformer oil and one for used transformer oil (see Figure 1). The facility has documented releases of PCBs and several solvents. Metals have also been found on-site. The entire facility is contaminated to some degree. The highest contamination concentrations is in a waste pit in the northern part of the facility (attachment 1).

Van Tran had operated the pit, actually a surface impoundment, out of compliance with RCRA standards. Van Tran did not notified the EPA of this disposal practice. The pit was discovered in 1985 as part of a joint RCRA CERCLA inspection to identify potential superfund sites. Van Tran was also cited by TSCA for PCB handling violations.

The Illinois EPA is handling the clean up and closure of this facility. However, after the discovery of the waste pit, a circuit court agreement was necessary for the IEPA to gain access to the site. As part of this agreement a contamination assessment of the site was to be done. There was also an IEPA internal evaluation of the site, for the purpose of removal of contamination, and to set clean up levels. Negotiations are presently ongoing between IEPA and Van Tran to finalize the closure plan. There do not appear to be any SWMUs at this facility which will not being addressed by the IEPA. The only action which needs to be taken by the USEPA at this time is to work with the IEPA to insure that a proper and complete closure is accomplished.

A clean up action at this facility is definitely needed.

B. Location Characteristics

Van Tran is located at 1505 Van Tran Ave. in Vandalia, Illinois. The facility has a gradual slope to the east and south. The north boundary is higher in elevation due to a bermed area south of a

RECEIVED
MUG - 3 1987
EPA/DLM

MWB
2014-
2017

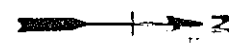
2036-A-B 2045-
2044

MWA
2004-
2008

MWC
2009-
2013

VT Well #2 BERM

RR TRACKS

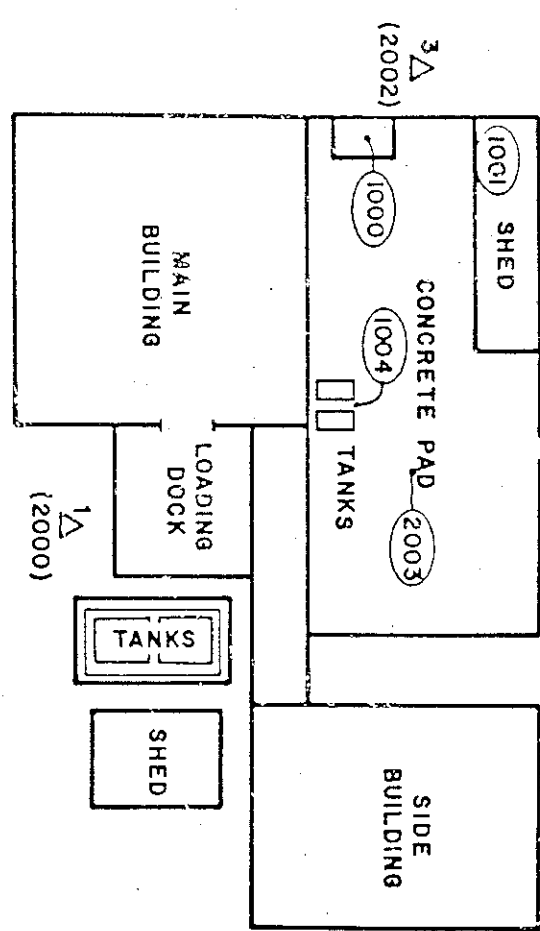


Δ^2 (2001)

#3

VT well

#1 VT well



Δ^D 2025-
2031

VT well
#4

Δ^C 2018-
2024

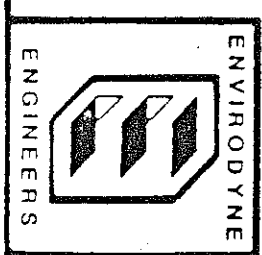
U.S. ROUTE 40

NOT TO SCALE

FIGURE 1

LEGEND

- WIPE SAMPLE
- WELL
- ▲ BORING
- △ SURFACE DRAINAGE
- () CORRESPONDING SAMPLE NUMBERS



Approximate Sample Collection Locations
VAN TRAN ELECTRIC

Van Tran Well

RFA REPORT FIG. 1

FROM LEADERS

railroad line. The property is bounded to the east and west by industrial facilities, to the south by Van Tran Ave., and to the north by the railroad tracks. The areas immediately surrounding the facility are industrial, however, the population becomes residential within a short distance, with schools, a nursing home, and parks nearby.

C. Site Geology/hydrogeology

Several borings and monitoring wells have been completed at the site. There are eight monitoring wells on-site (Figure 1) with negotiations ongoing between IEPA and Van Tran to install two more in the vicinity of the pit. The direction of ground water flow has not yet been determined. It appears that a ground water divide may exist below the facility. No groundwater contamination has, as yet, been detected. However, the wells were not placed as to optimize detection of a release, therefore, the need for the additional wells as discussed above. Ground water and geologic reports are on file with the IEPA.

D. Waste Characterization

Wastes generated by Van Tran include: solvents, paint, and PCB's. Several solvents were used to clean transformer tanks and equipment. These included: MEK, toluene, and xylene. Benzene has also been detected in soil samples. Steve Parke of Van Tran reported that benzene was never used on site and is probably present as a contaminant of the other solvents or paints.

Waste paints (possibly leaded) were generated from a spray booth. The overspray was collected in a tank, drummed and allowed to dry in the pit.

The PCB's were not intended to be handled as a waste, but were released to the environment through improper handling techniques. An area just north of the northwest storage shed accumulated "empty" Askeral (PCB containing transformer oil) drums. The drums were evidentially not completely empty and released remaining Askeral to the surrounding area, including the site drainage. A 14000 gallon spill of Mineral Oil, possibly containing PCBs, may have also led to the sites contamination (see below).

Filter media from the spray paint unit and from the recovery of solvents were also identified as waste streams. The spray paint filters were used to collect overspray as part of emissions control. The filters were collected and landfilled. The solvent recovery system consisted of two five gallon buckets. One bucket was filled with a clay filter media and had a hole in the bottom. Spent solvents contaminated with transformer oil or paint residues, were placed in the top bucket filled with the clay. The solvents filtered through the clay, exiting the hole in the bottom of the top bucket and collected in the bottom bucket. Ideally the clay would filter out the transformer oil and paint residues.

E. Solid Waste Management Units

1. Pit

For approximately 13 years (pre 1985) Van Tran used a pit to discard spent solvents and paint waste. This pit was actually a hazardous waste surface impoundment operated in violation of RCRA standards. The pit is located in the northwestern portion of the property (fig 1). The pit has since been filled in and sodded by Van Tran. A fence has been erected around the pit. This pit was approximately 10' in diameter and had a several inch high bermed area. Van Tran acknowledged the disposal of the solvents and paint waste in the pit, however, content that the PCBs were not intentionally placed in the pit. According to Steve Parke, the soil used to construct the berm around the pit was taken from the drum storage area (see D above and E6 below) which was contaminated by PCBs. The berm material was then pushed into the pit, as fill, when Van Tran discontinued using the pit, resulting in the PCB contamination. Another scenario, denied by Van Tran, was that the drums used to collect the solvent and paint waste were the same ones which held the PCB containing transformer oil. Thus, any remaining or residue PCB containing fluid would have entered the pit with the spent solvents and paint. One other scenario is that when servicing old transformers, containing PCB oil, the solvents used to clean the transformers would become contaminated with PCBs, with the now PCB contaminated solvent dumped into the pit. Van Tran also denied this, saying that all transformers brought in for servicing were tested for PCBs, and if they contained PCBs their warranty was void and Van Tran would not service them. Regardless of the method of contamination the pit is definitely in need of remediation.

In an attempt to "clean" the pit, Van Tran had a some of its employees remove the top couple feet of contaminated soil. This soil was drummed and is still on site in a storage shed. IEPA inspected these drums and noted a strong solvent odor. Subsequent sampling found that the pit still had very high levels of solvent and PCB contamination. Samples taken from the pit at depths up to 8' have reduced but significant levels of contamination (see attachment 2).

Recommendation: No U.S. EPA action needs to be taken at this time.

Reason for recommendation: 1) The pit and its contamination are well documented. 2) The IEPA is actively pursuing closure and clean up of this pit.

2) Drum storage area

Five drums of material removed from the pit, a five gallon bucket of solvent filter medium, and a partially full 55 gallon drum of spent solvents are presently being stored in a shed in the north part of the facility. There are also several drums of

decontamination materials. These materials were generated from the sampling which has already occurred at the site.

Recommendation: No U.S. EPA action needs to be taken at this time.

Reason for recommendation: IEPA will supervise the removal of these drums.

Concerns: The drums should be checked for leaks and the floor should be checked for cracks to ensure that any releases would not escape to the subsurface. The area should be certified clean.

3)Used transformer oil tank

Apparently a tank was used to collect used transformer oil. This tank has reportedly been dismantled and removed from the site. The possibility exists that PCBs could have been a contaminant of the waste oil.

Recommendation: No U.S. EPA action needs to be taken at this time.

Reason for recommendation: 1) The tank no longer exists. 2) If a release occurred, with hazardous constituents, it should be addressed in the IEPA action.

Concerns: Identify this area and confirm that no releases occurred from this tank.

4) Concrete Burn Pad

During the VSI, Mr. Parke identified an area where copper transformer coils were burned to clean them. PCBs may have been on the coils and could have added to the sites overall contamination. This pad is located directly east of the present drum storage shed.

Recommendation: No U.S. EPA action needs to be taken at this time.

Reason for recommendation: 1) IEPA will pursue overall clean up of this site.

Concern: Need to address this area in the site clean up.

5)Mineral oil tanks

These tanks reportedly contained only mineral oil (per Steve Parke). However, the IEPA said they detected PCBs mixed with the Mineral Oil. One of these tanks has been dismantled. Steve Parke said the IEPA has sampled the tanks and the surrounding area. Parts of the area inside the containment wall are stained.

Recommendation: No U.S. EPA action needs to be taken at this time.

Reasons for recommendation: This area has reportedly been sampled by the state and any release should be addressed in the IEPA clean-up.

Concerns: Confirm that the IEPA has sampled in this area and that the staining inside the containment was present during previous inspections and sampled. If there is no record of sampling in this area, sampling should be conducted.

6) Empty PCB drum storage area

Just north of the drum storage shed is the area where empty Askeral drums were stored. According to Steve Parke this is the source of the PCB contamination on site.

Recommendation: No U.S. EPA action needs to be taken at this time.

Reason for recommendation: The IEPA will address the clean up of this area.

Concerns: 1) Address clean up of the soils in this area, and 2) With drainage running south and east, it is possible that high PCB contamination may be present under the storage shed building.

Miscellaneous concerns

1) Facility

As discussed in the introduction, and alluded to above, the entire facility is contaminated, to some degree, with PCBs, solvents, and metals (see attachment 1).

Recommendation: Review the closure plan and work with the IEPA in ensuring that the entire site is properly and completely cleaned.

2) Off-site contamination

Off-site surface drainage PCB contamination has been documented. Natural drainage from the site appears to have been the transport mechanism.

Concerns: Review the closure plan and work with the IEPA in ensuring that the off site contamination is addressed.

3) Paint spray booth/production areas

The paint spray booth was used to paint transformers. Waste solvents, paint, and air emissions control filters were generated in this area. Other areas and machinery (ovens) were used to handle PCBs and solvents.

Recommendation: No U.S. EPA action needs to be taken.

Reason for recommendation: It is unlikely that any hazardous residues would remain in these areas or that they were used to store, treat or dispose of solid waste. The air emission filters from the spray booth were removed and landfilled. The waste paint and solvents were drummed and disposed in the pit. Some of the machinery has been dismantled and sent to other Van Tran facilities. However, the potential does exist that some hazardous constituents may have accumulated in these areas. It is suggested that Van Tran document that all areas have been properly cleaned and that any prospective buyer be aware of these areas.

Concerns: Confirm that these areas have been cleaned and that all wastes have been removed. Inspect the spray booth collection system to ensure that no releases could have occurred and that no hazardous residues are present.

4) Underground storage tanks

Two underground storage tanks were used on site to store diesel fuel and gasoline. Steve Parke stated that the tanks have been removed.

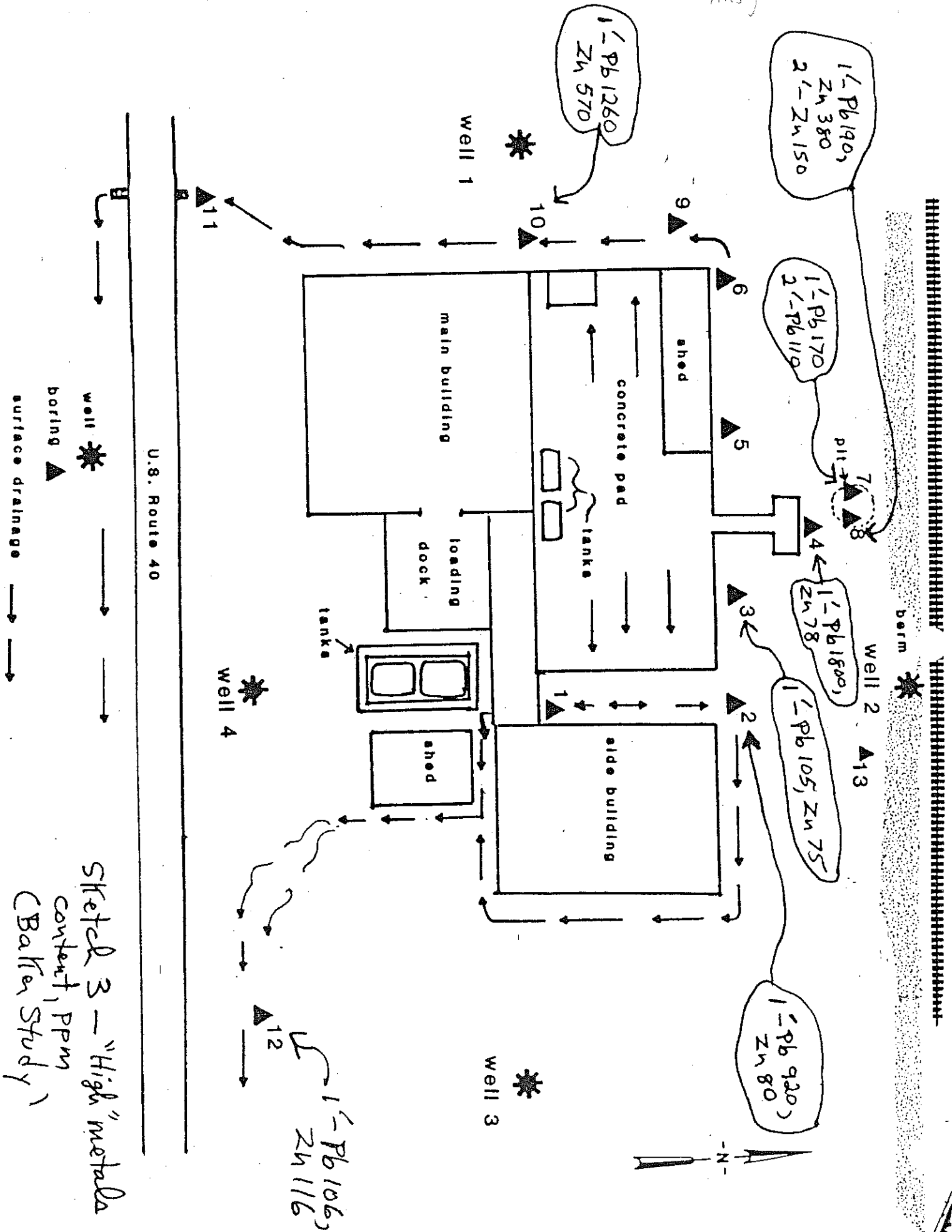
Recommendation: No further action

Reason for recommendation: 1) The tanks reportedly no longer exist. 2) Any release from these tanks, to the ground water, should be detected in the monitoring system.

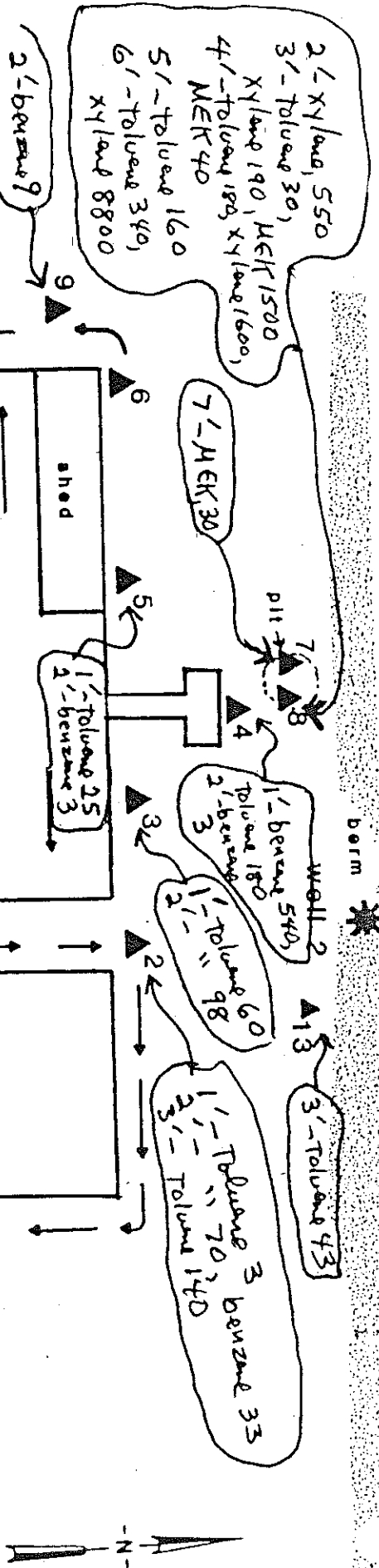
Concerns: Confirm that these tanks have been removed.

Final Recommendations

The IEPA is handling the clean up and closure of the facility. At the time of the writing of this report no final closure plan has been approved, and no clean up has occurred. However, due to the small size of the facility, and the ubiquitous nature of the contamination, I am confident that the IEPA action will properly and adequately remediate the entire site. It would be redundant, at this time, for the U. S. EPA to get involved in a separate clean up at the facility. It is highly recommended that the U. S. EPA and IEPA work together to ensure an adequate and proper clean up of this facility. A copy of this report will be sent to the IEPA to make them aware of the above concerns. If the state EPA actions fail, a referral to U.S. EPA RCRA enforcement or CERCLA will be necessary.



berm



U.S. Route 40

well



boring



surface drainage



not to scale

Sketch 2-VOAS (ppm)
(Baker Study)

Van Tran Electric



From BRIL Contam Assess
VT E Co

V.T.I.

Results

Baker/TSA
NW 87

Tabulated analytical results for the preliminary contaminant assessment are included in Appendix F. General results are categorized as follows.

Metals -

Lead and zinc were detected in the soils of the surface impoundment area. Concentrations are progressively lower as depth increases, dropping off considerably at depths below eight to ten feet.

At other boring locations, concentrations of lead and zinc are present in the upper one to three feet of soil, and the levels also attenuate as depth increases.

Low levels of cadmium are present in the upper one to three feet of soil at all sampling locations.

These results are essentially the same as those which were reported in the preliminary site screening assessment which was conducted in October 1985.

PCBs -

Polychlorinated biphenyls (PCBs) were detected in the upper three feet of the surface impoundment soils. Lower levels were detected to a depth of eight to ten feet.

At other soil boring locations, various levels of PCBs were detected, but these concentrations are generally confined to the upper three feet of soil.

Again, these data substantiate the results of the earlier study.

Organics -

A variety of organic compounds were detected in the soils of the surface impoundment. In general, the concentrations of these compounds attenuate with increasing depth. At the other boring locations, a few organic compounds were detected at a variety of

depths. Typically, the greatest concentrations are present at the surface and attenuate with increasing depth.

Groundwater - Groundwater samples collected at the site appear to be relatively contaminant free. Very low levels of lead were detected as well as several unknown organic constituents. The presence of these unknown organics are highly suspect, however, as they were also detected in the laboratory blanks. This strongly implies that this contamination has been introduced from another source, such as sampling or laboratory induced contamination.

Conclusion

The results of this study have verified the results of the previous study. In general, soil contamination at the site appears to be limited to the upper three feet of soil with attenuation at greater depths.

Groundwater downgradient from the site is essentially contaminant-free, and therefore, groundwater does not appear to be a pathway for contaminant transport at this time.

REA REPORT
ATTACHMENT 2
(from IEPA files)

TABLE A-2
VANTRAN ELECTRIC CORPORATION, VANDALIA, ILLINOIS
RESULTS OF SOIL SAMPLING IN SMALL SURFACE IMPOUNDMENT - OCTOBER 15-17, 1985
(All analytical results expressed in parts per million-ppm)

DEPTH INTERVAL	BORING LOCATION A - EAST			BORING LOCATION B - WEST		
	PCBs*	VOLATILE ORGANICS**	METALS***	PCBs*	VOLATILE ORGANICS**	METALS***
0 to 1 foot	2300 (1254) 440 (1260)	BDL	170 (lead) 20 (zinc)	330 (1248)	BDL	190 (lead) 380 (zinc)
1 foot to 2 feet	1100 (1248)	BDL	110 (lead) 25 (zinc) 2.2 (cadmium)	72 (1242)	550 (xylene)	14 (lead) 150 (zinc)
2 feet to 3 feet	46 (1016)	BDL	14 (lead) 6 (zinc)	21 (1016)	30 (toluene) 190 (xylene) 1500 (MEK)	8.4 (lead) 25 (zinc)
3 feet to 4 feet	15 (1242)	BDL	13 (lead) 32 (zinc)	15 (1016)	180 (toluene) 1600 (xylene)	12 (lead) 19 (zinc)
4 feet to 5 feet	8.1 (1248) 4.0 (1254)	BDL	10 (lead) 21 (zinc)	10 (1016)	160 (toluene)	25 (lead) 15 (zinc)
5 feet to 6 feet	BDL	BDL	11 (lead) 23 (zinc)	16 (1232)	5 (benzene) 340 (toluene) 8800 (xylene)	7.6 (lead) 15 (zinc)
6 feet to 7 feet	3.4 (1260)	BDL	10 (lead) 21 (zinc)	BDL	BDL	11 (lead) 23 (zinc)
7 feet to 8 feet	BDL****	BDL	5.4 (lead) 23 (zinc)	3.8 (1242)	BDL	7.4 (lead) 20 (zinc)

* Samples were analyzed for PCBs utilizing gas chromatograph/electron capture techniques; limit of detection - 2 ppm.
Number in parentheses represents PCB formulation.

** Samples were analyzed for benzene, toluene, xylene and methyl ethyl ketones utilizing gas chromatograph/mass spectrophotometric techniques; limits of detection: benzene - 1 ppm; toluene - 10 ppm; xylene - 30 ppm and methyl ethyl ketone - 100 ppm.

*** Samples were analyzed for lead, zinc and cadmium utilizing atomic absorption flame photometric techniques;
Limits of detection - 1 ppm.

**** BDL - Below detection limits.

13

October 14, 1988

Van Tran Electric RFA Report

Kevin J. Moss,
Illinois Permitting Section

THRU: Charles M. Wilk,
Acting Illinois Section Chief

TO: Dennis Newman,
Remedial Project Management Section

I have completed the RFA Facility Assessment (RFA), specifically as it applies to the Hazardous and Solid Waste Amendments (HSWA) of 1984, on the Van Tran site in Vandalia, Illinois. In the "RFA Final Summary and Recommendation" report (enclosed) I have concluded that IEPA actions at Van Tran, as I understand them, will be sufficient to properly clean up this site, and that any U.S. EPA action at this juncture would be redundant. However, to avoid any future problems or oversights, I believe it is important that we coordinate our efforts to assure that the entire site is addressed. In the enclosed report I have listed a number of concerns upon which I would appreciate your feedback. If you feel that the IEPA action will not, for whatever reason, be able to resolve the environmental issues raised in this report, or if you have any supplemental information, would you please notify me. I would appreciate your keeping me abreast of the progress of the clean up and closure of this facility.

If you have any questions or comments, please do not hesitate to contact me at (312) 886-1477.

I have sent copies of this memo and report to those people listed below. Would you please see that any other persons involved in the remediation of this site also receive a copy of this report.

Enclosure

cc: Kenn Liss, Compliance Section
Collinsville Region
G. Tod Rowe, Permits Section
Bruce Carlson, Enforcement

Kevin J. Moss;jhg 10/13, 10/14/88

RCRA PERMITS	TYP.	AUTH.	IL. CHIEF	IN. CHIEF	MI. CHIEF	MN/WI CHIEF	OH. CHIEF	RPS CHIEF	O.R. A.D.D.
	<i>JHG</i>	<i>KJM</i>	<i>E.M.</i>						
INIT. DATE	10/14/88	10/14/88	10/17/88						



ENVIRODYNE
ENGINEERS

Steve D

12161 Leckland Road,
St. Louis, Missouri 63141
(314) 434-0760

July 7, 1986
3059-30000

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IEPA-DLPO

Mr. Jim Janssen, P.E.
Manager, Immediate Removal Unit
Division of Land Pollution Control
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Subject: Van Tran Electric Corporation

Re: Letter and site assessment information provided by
Ernest Brix of Baker/TSA to Gregory Wolk, dated
June 10, 1986

Dear Mr. Janssen:

The following pages present our interpretation of the information referenced above and our recommendations for obtaining the additional information necessary to assess the extent of on-site contamination and its migration potential.

To maximize the information yield from the recommended investigations and to assure that they are carried out in the most cost-effective manner, we further recommend an on-site working session with representatives of Baker/TSA at their earliest convenience to refine the scope of recommended field work.

If you have any questions or require additional information, give me a call.

Sincerely,

Maxim Gricevich

Max Gricevich
Project Manager

MAG/alg
Enclosure

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IEPA-DLPC

VAN TRAN ELECTRIC - ASSESSMENT OF INFORMATION
AVAILABLE TO DATE AND RECOMMENDATIONS FOR
FURTHER INVESTIGATION

Purpose and Objectives

The purpose of the Van Tran Electric contamination assessment is to establish whether, and to what extent, the property in question is a source of contamination with potential for release to the surrounding environment. The objectives of the assessment are to characterize potential contaminant sources and to delineate any pathways of migration from those sources to off-site media or receptors.

Overview of Information Available to Date

Information in the IEPA files on Van Tran Electric indicates that potential environmental contaminants, including solvents, thinners, paint wastes, and PCBs were both utilized and disposed of on site. It also indicates that these materials were handled in a manner which would result in a high probability of release to the environment, including open dumping on site and spillage into the Brush Creek system. Little specific information, however, is present concerning the variety of materials historically handled at the site, Van Tran's methods of handling them, or environmental characteristics of the site area.

In short, the file contains sufficient information to establish a high probability of environmental contamination but insufficient information to define its extent.

Request for Additional Information

On May 28, 1986, a meeting was held at the Illinois Attorney General's office in Springfield. In attendance were representatives of the Attorney General, Van Tran, IEPA, and Envirodyne. Matters discussed and agreed upon among the parties at the meeting are summarized in a letter from Mark La Rose of the Attorney General's office to Mr. Greg Wolk (Tockman and Wolk, Van Tran's attorneys) and Mr. Steve Parke (V.P., Van Tran) dated May 30, 1986. Among those matters were the exchange of certain information among the parties involved.

Of particular interest to Envirodyne was information from Van Tran's consultant, Baker/TSA, concerning the preliminary assessment they had performed at the site and information from Van Tran on the sources of fill material used at their "pit", an inventory of chemicals usage, and a history of site operations.

The information from Baker/TSA was provided on June 10 and July 1, 1986. That requested from Van Tran has not yet been provided.

Assessment of Baker/TSA's Information

In our judgment, Baker's report and accompanying quality assurance plan establish that all work was performed in both a professional and technically acceptable manner. However, the scope of Baker's services at the site (described in the opening line of the referenced letter from Ernest Brix to Greg Wolk) were limited to an "initial preliminary assessment," and much of the information which Envirodyne had hoped to obtain from their report was not within that scope. Specifically lacking are survey and water-level data, soil characteristics, and groundwater flow determinations.

Data in the report does, however, indicate the presence of significant contamination on site (including points at the exits of surface drainage to off-site areas) in the form of PCBs and volatile organics. Of particular concern is the widespread nature of the contamination and its presence in both of the principal surface drainageways, indicating the existence of multiple sources of contamination on site. Major contamination patterns of concern (from Baker's report) are illustrated on Sketches 1-3, included as Appendix I to this report.

Recommendations for Obtaining Additional Information

Based on Baker's preliminary investigation, data in the IEPA files, observations from the site walk-through in May, and the absence of site and materials information described previously, we recommend the following program of site investigations:

- A. Wells. The series of existing wells is insufficient for groundwater monitoring. Until their levels have been surveyed, they are of no value for groundwater

level or flow measurements. The physical analyses of soils from them (necessary for flow determination) was not performed, and their placement and number is not adequate for either a contamination assessment or a groundwater monitoring program.

We recommend that the existing wells be surveyed and casing elevations established. We also recommend the placement of four additional wells as indicated on Sketch A, Appendix B. These proposed wells are located with respect to surface drainage and probable contaminant flow as well as serving for water-level measurements. During installation, soil samples should be obtained at 1-foot intervals for chemical analyses and at 5-foot intervals or changes in strata for physical analyses. Chemical analytes should include organics (by EPA methods 624 and 625), metals, and PCBs. Physical analyses should provide that information necessary for input to flow determinations. Vertical and horizontal surveying should be performed on each well.

Subsequent to installation and development of the wells, a program of flow analysis should be performed (slug or baildown tests) and the wells sampled for the parameters listed above.

B. Core Samples. Two core samples extending to the groundwater level should be obtained from the "pit." Discrete soil samples should be taken from each 1-foot interval and analyzed for organics, PCBs, and metals as described under "Wells."

C. Wipe Samples. The widespread and surficial nature of the PCB contamination on site indicates multiple sources and recent or current contaminant transport. Among the potential sources are several locations on the concrete pad. We recommend sampling these areas for PCBs by taking composite wipe samples (2-3 100cm² areas sampled and composited per site). Five sites (shown on Sketch B, Appendix B) are recommended for sampling: (1) the concrete pad adjacent to the "pit"; (2) the stained metal in the "staging area" on the concrete pad; (3) the concrete to the north of the staging area (the direction of drainage); (4) the concrete to the east of the "staging area" (heavily stained); and (5) the concrete around the tanks staged on the pad.

D. Soil Samples. The soil sampling and analysis performed in Baker's study establishes the presence of contaminants in site drainageways and need not be repeated in this phase. Several additional areas are, however, potential contaminant sources and are recommended for sampling and analysis for the parameters listed under "Wells." These areas, shown on Sketch C of Appendix B, are as follows:

- A composite from the graveled parking area to the east of Well 4. (This area receives sheet flow from site surface drainage);
- A composite from the northeast section of the site (surface drainage from around the "side building");
- A composite from the low-lying, largely unvegetated area to the west of the concrete pad;
- Two discrete samples in the drainageways at their exit from the site, corresponding to areas 11 and 12 from Baker's survey.

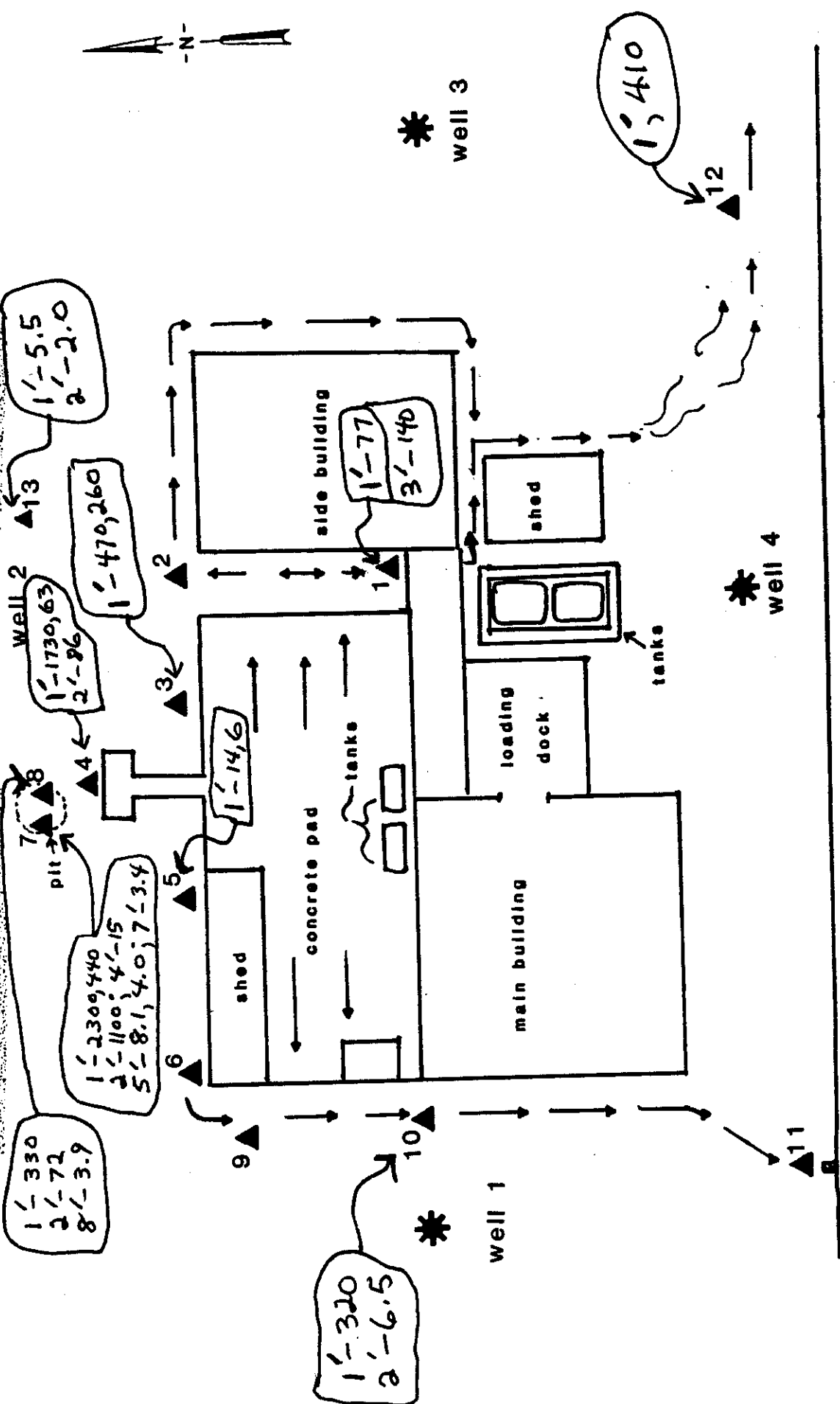
All well installation and sampling and analysis recommended herein should be performed in accordance with IEPA approved methodology (including QA/QC) and with IEPA oversight.

Appendix A

Major Contamination - Baker Study

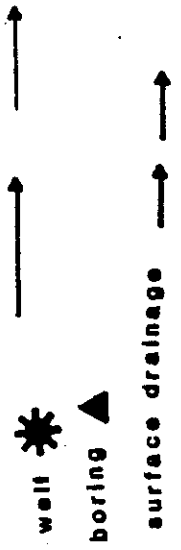


berm



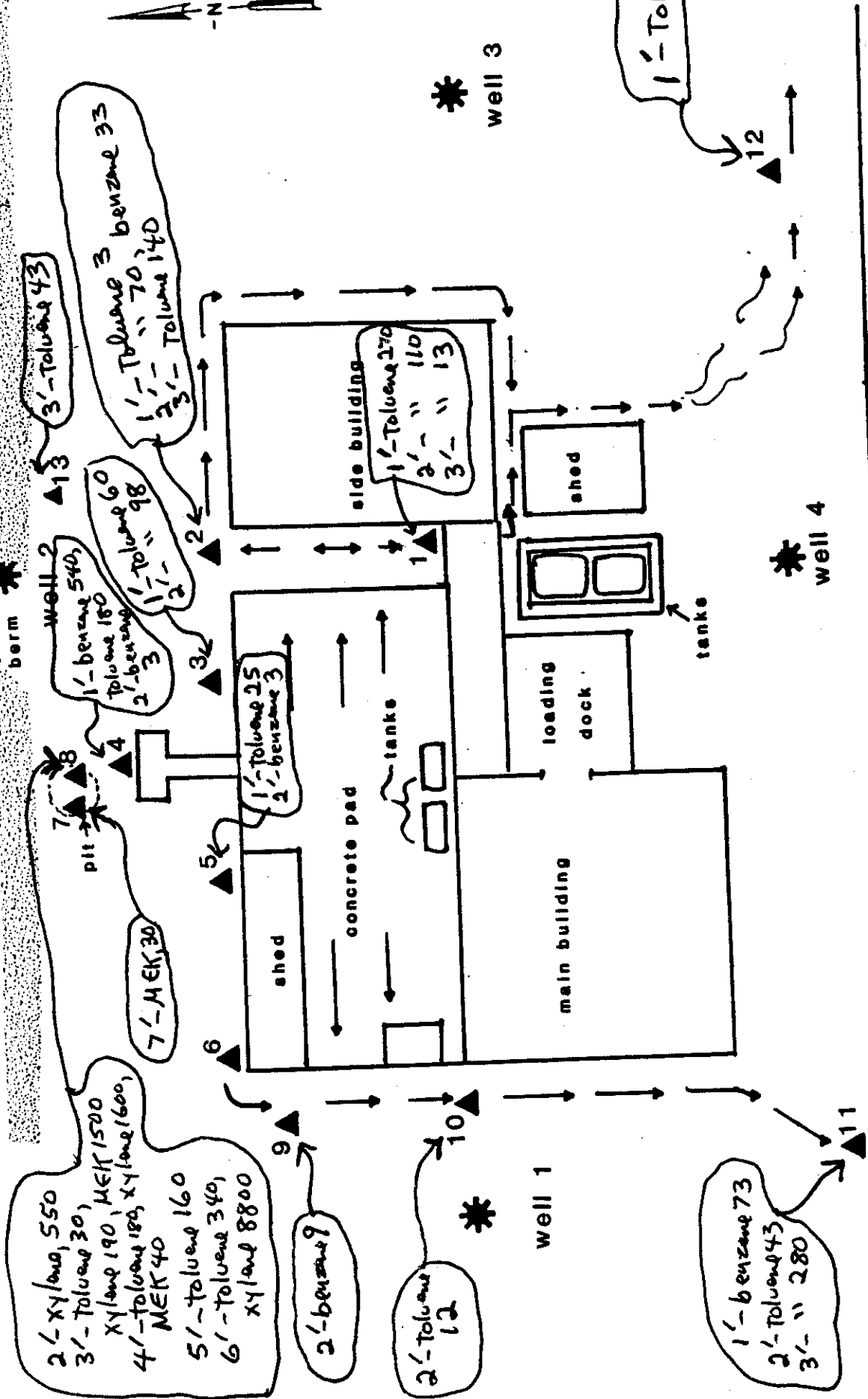
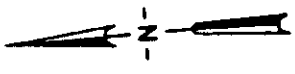
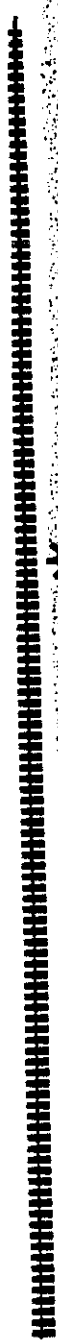
U.S. Route 40

Sketch 1 - PCBs (ppm)
(Baker study)

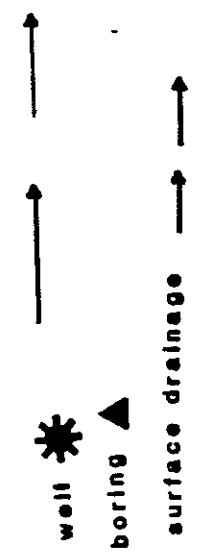


Van Tran Electric

not to scale



Sketch 2 - VOAs (PPM)
(Baker Study)

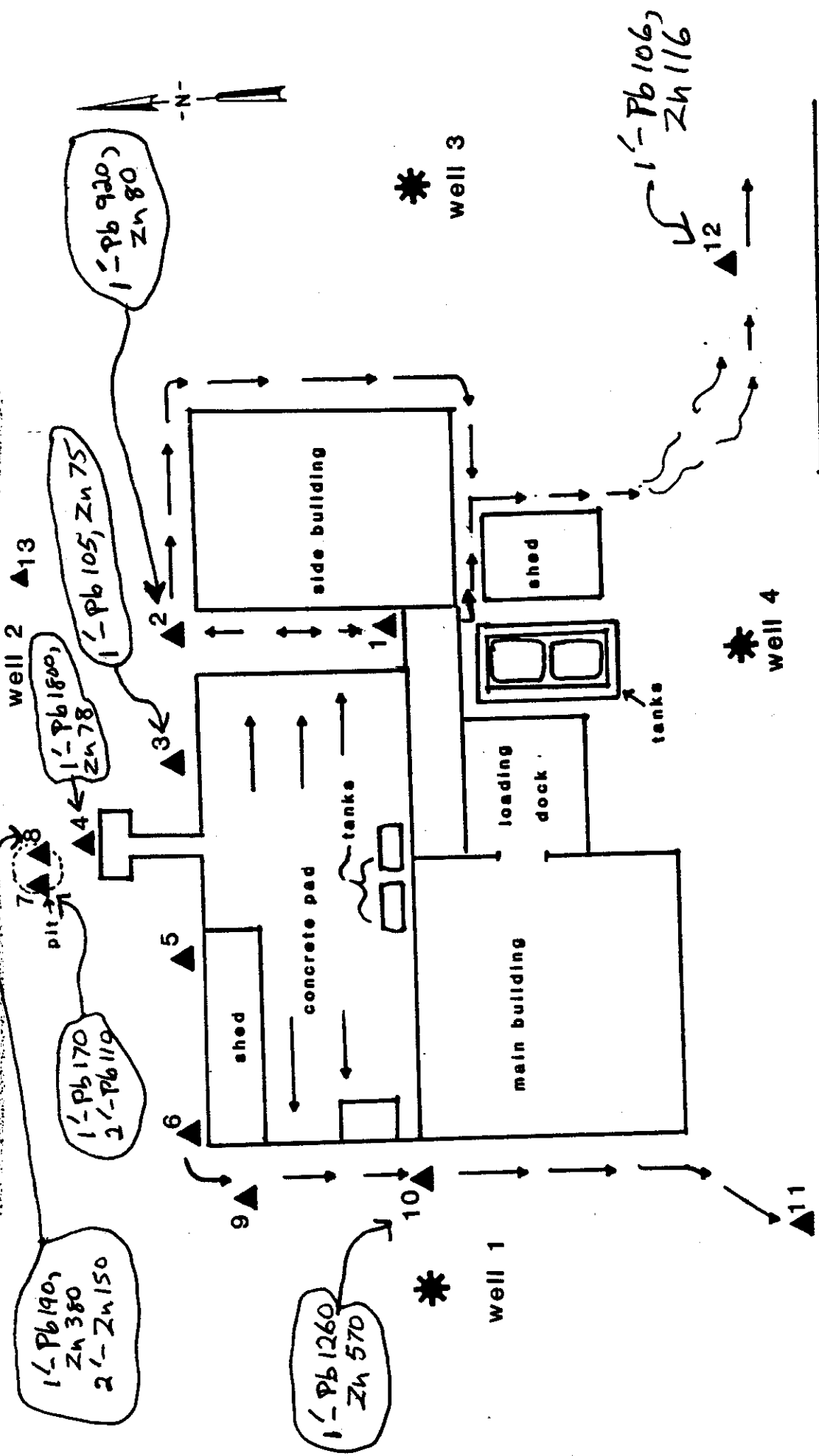


Van Tran Electric

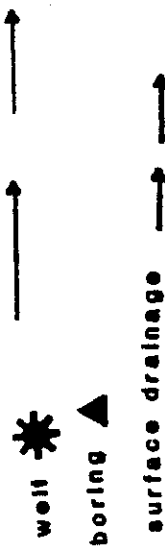
not to scale



berm *



Sketch 3 - "High" metals
content, PPM
(Baker Study)



not to scale

Van Tran Electric

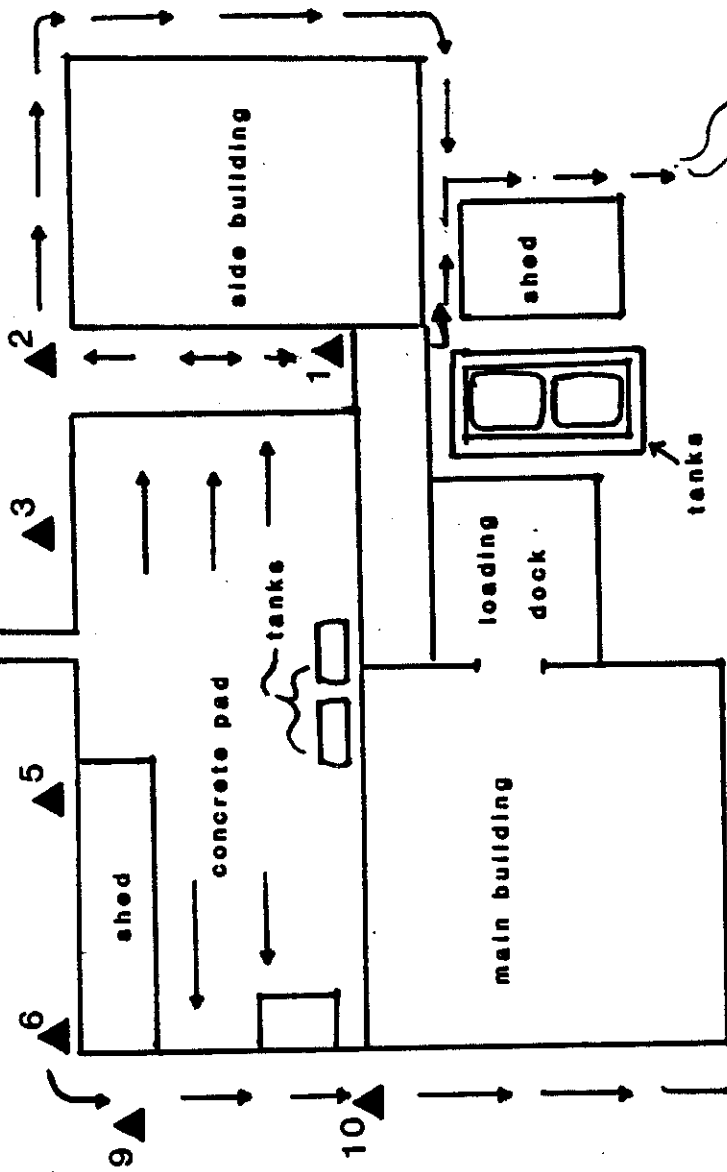
Appendix B

Recommended Wells and
Soil and Wipe Sample Sites



well 2 ▲13

pit ▲8

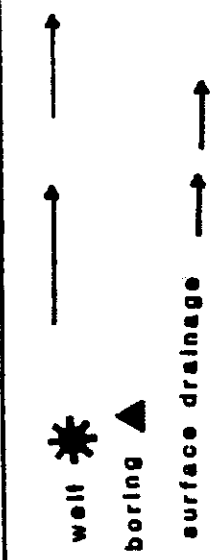


well 3

well 1

well 4

U.S. Route 40



Sketch A -
Proposed wells -

not to scale

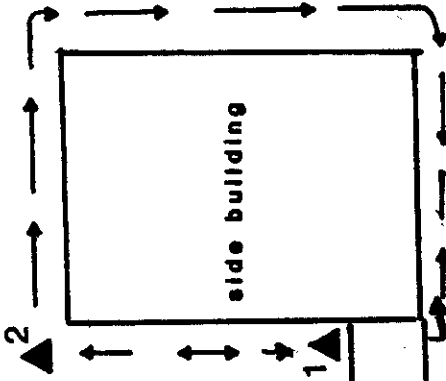
Van Tran Electric



well 2 ▲13

pit 7 8

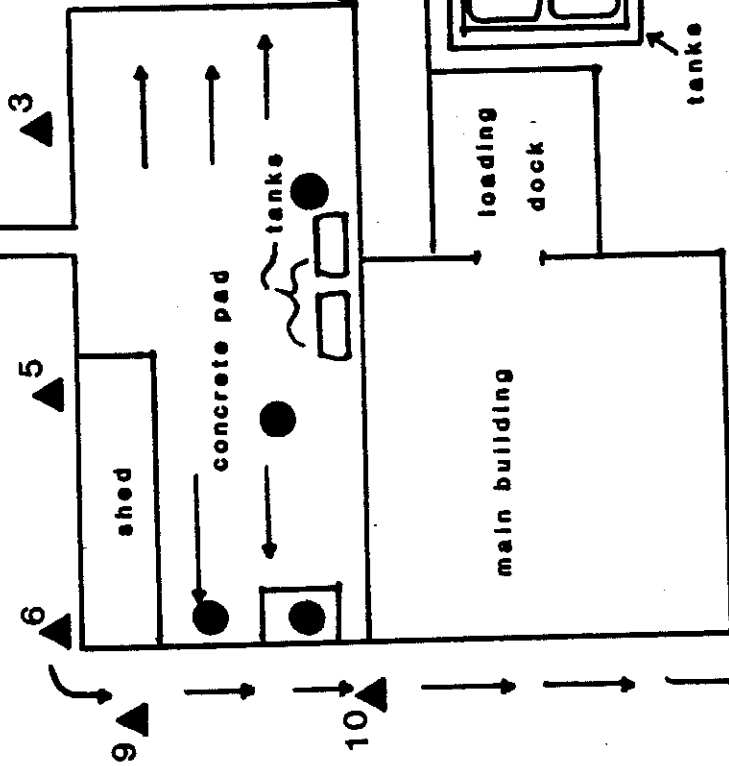
▲4



* well 3

▲12

* well 4

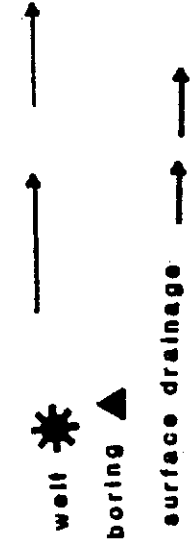


* well 1

well 1

▲11

U.S. Route 40

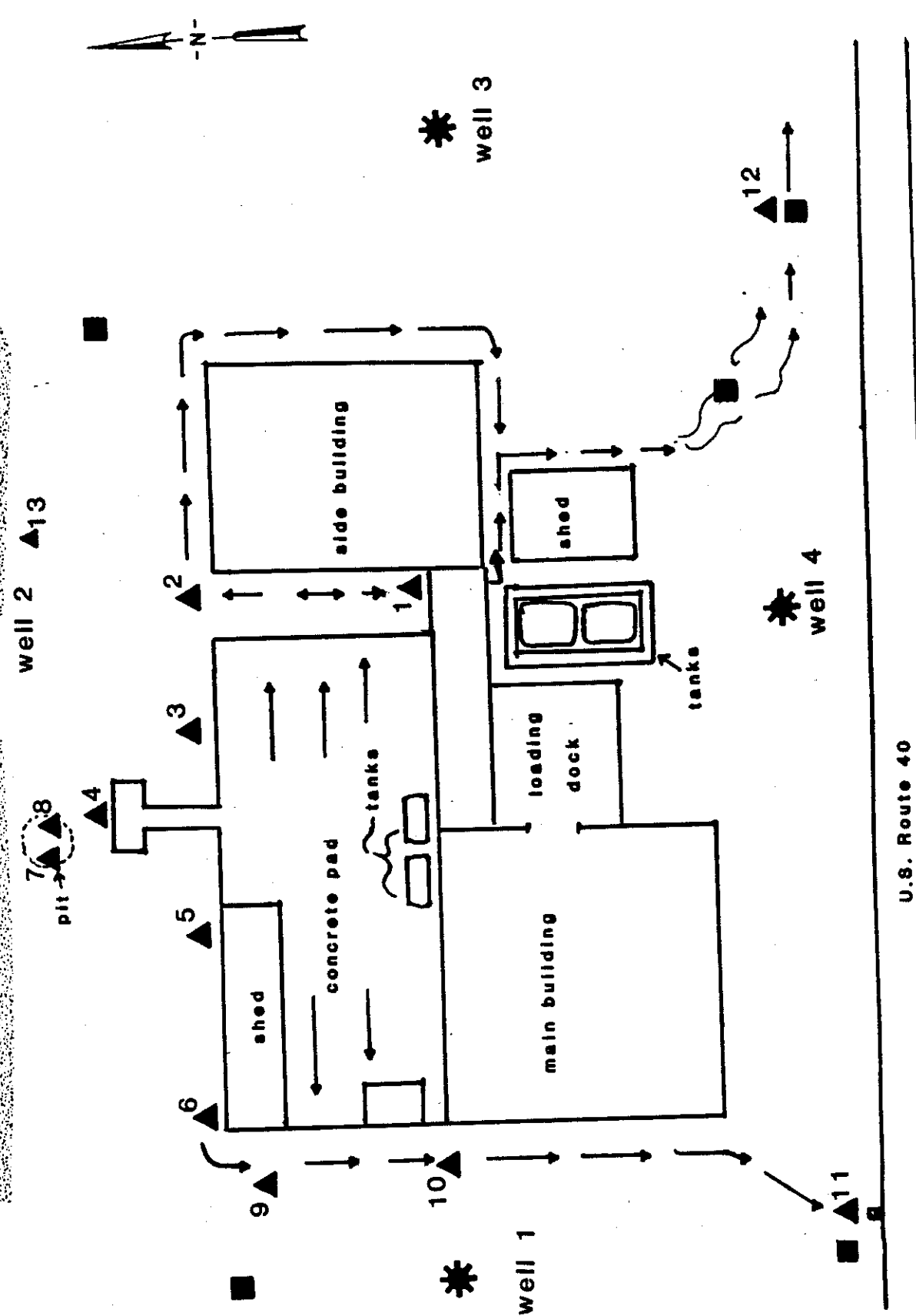


Sketch B -
Proposed Wipe Samples



not to scale

Van Tran Electric



Sketch C -
Proposed Soil
samples - ■

**REVISED REPORT
PRELIMINARY CONTAMINANT ASSESSMENT
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS**

Prepared for:

**VANTRAN ELECTRIC CORPORATION
7711 IMPERIAL DRIVE
WACO, TEXAS 76702-0128**

Prepared by:

**BAKER/TSA, INC.
8315 VIRGINIA STREET
MERRILLVILLE, IN 46410**

AUGUST 1988

**VANTRAN ELECTRIC CORPORATION
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PLATE 2 -	GROUNDWATER ELEVATIONS, APRIL 28, 1987
PLATE 3 -	GROUNDWATER ELEVATIONS, SEPTEMBER 17, 1987

EXECUTIVE SUMMARY

This report presents the results of a preliminary contaminant investigation performed at the VanTran Electric Corporation site in Vandalia, Illinois.

Eight soil borings were undertaken at the site along with the installation of four groundwater monitoring wells. Surface and subsurface soil samples and groundwater samples were collected and analyzed for a variety of potential inorganic and organic contaminants. Groundwater levels were measured at the site to determine the direction of groundwater flow and the elevation of the groundwater surface in the uppermost aquifer underlying the facility.

The VanTran facility is underlain by approximately 100 feet of quaternary deposits of gravel, sand, silts and clay. These deposits rest atop bedrock that consists of Pennsylvanian calcareous shales and clays of the Bond Formation.

Groundwater at the site occurs in two separate aquifers. The uppermost aquifer (i.e., the water table aquifer) occurs in the medium grained sands of the Hagerstown Beds. The second aquifer occurs in the Pennsylvania bedrock and is separated from the water table aquifer by more than 50 feet of glacial till. During the period from April 28 to October 1, 1987, static water levels at upgradient wells MW-D and P-1 ranged from 7.75 feet to 8.98 feet below grade elevation. During this same period, static water levels at the four on-site wells ranged from 11.65 feet to 17.18 feet below grade. During the study period, groundwater elevations ranged from an upgradient high of 512.52 feet above mean sea level to a downgradient low of 511.08 feet above mean sea level. These groundwater elevations indicate that the prevailing direction of groundwater flow is north. Minor fluctuations in groundwater flow direction observed during the April through October monitoring period are attributable to variations caused by the dynamic nature of groundwater flow in the uppermost aquifer.

The results of the preliminary contaminant investigation indicate three different areas of soil contamination designated by their relative concentrations of contaminants and geographical area. The first area of soil contamination is the surface impoundment area, which can be characterized as a zone of significant contamination from

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below grade overlain by a zone of lesser contamination from 6 feet to 12 feet below grade.

The second area of soil contamination exists in the southeast corner of the facility along a drainage ditch. Significantly elevated levels of PCBs and organic compounds were detected to a depth of seven feet below grade, which was the maximum depth of the soil boring in that area.

The third area of soil contamination exists at other drilling locations in the upper one-foot of soil. Contamination in these areas occur sporadically and generally occur as relatively low level concentrations that attenuate with increased depth.

The groundwater at the site is relatively contaminant free with only very low levels of lead and cadmium being detected above Primary Drinking Water Standards. Lead excursions occurred in both the upgradient well and one downgradient well. Cadmium excursions occurred in both the upgradient well and two downgradient wells. Monitoring Well MW-B contained 1,1,1-trichloroethane at a concentration of 10 µg/l.

I. INTRODUCTION

VanTran Electric Corporation owns and operates a manufacturing facility in Vandalia, Illinois where they have manufactured speciality electrical transformers since 1962. Figure 1 is a topographic map of the area. On June 3, 1985, Illinois Environmental Protection Agency (IEPA) personnel obtained samples of soil and free liquids at the surface of a small on-site impoundment for subsequent analysis. Results indicated the presence of polychlorinated biphenyls (PCBs), benzene, lead, methyl ethyl ketone, toluene and xylene, as indicated in Appendix A, Table A-1. Subsequently, on June 24, 1985, IEPA issued a notice of alleged violations of various provisions of Title 35 of the Illinois Administrative Code and the Illinois Environmental Protection Act.

In September of 1985, the firm of Tockman, Laderman and Wolk, VanTran's legal counsel, contracted the services of Baker Engineering, Inc. to provide technical assistance in preparing a response to IEPA. On September 23, 1985, Baker personnel performed a reconnaissance of the site in order to become familiar with the current situation and obtain preliminary background information. In October 1985, Baker was requested to perform a preliminary site screening assessment in order to determine the nature and relative magnitude of potential soil and/or groundwater contamination at the site.

The screening assessment, which was conducted during the period October 15 through 17, 1985, involved the installation of four groundwater monitoring wells, the collection and analyses of groundwater samples and the collection of surface and subsurface soil samples at selected locations at the site. Soil sampling and well installations were performed by Professional Service Industries, Inc. (PSI) of Springfield, Illinois, under subcontract to Baker. These activities were supervised and directed by a qualified Baker geologist. Groundwater samples were obtained by the Baker geologist. All soil and groundwater samples were analyzed at PSI's Laboratories located in Houston, Texas. The results, which are presented in Appendix A, Table A-2, indicated that soil within the impoundment contained concentrations of PCBs, benzene, lead, methyl ethyl ketone, toluene and xylene. Cadmium and zinc also were detected.

1 MILE 1/2 0 1 MILE

CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

In order to prevent potential environmental risks that may have been posed by the impoundment, VanTran proposed to close the surface impoundment as soon as possible by excavation, removal, and off-site disposal of contaminated soils. However, the IEPA requested a more extensive site assessment be conducted and disapproved VanTran's closure plan.

With the permission of VanTran, representatives of IEPA and Environmental Engineers, Inc. (EEI), an IEPA contracted consultant, conducted a brief site reconnaissance on May 15, 1986. On May 28, 1986, a meeting was held at the Illinois Attorney General's office in Springfield, Illinois. In attendance were representatives of the Attorney General, VanTran, IEPA and EEI.

In December 1986, EEI submitted a workplan, Appendix B, to the IEPA proposing further assessment activities at the site. VanTran contracted Baker to review and comment on EEI's proposed workplan.

Baker's comments in tandem with the EEI workplan became the basis of a "Consent Plan" entered into by VanTran and IEPA (Appendix C).

Under the conditions of the "Consent Plan", Baker conducted a preliminary contaminant assessment of the VanTran site, the results of which are presented in this report.

II. SITE BACKGROUND INFORMATION

Location of Site

VanTran's Vandalia, Illinois facility is located within a three-acre tract that is characterized by generally flat terrain. A Site Plan of the facility is provided as Plate 1. The facility is located on U. S. Route 40 approximately one-mile east of U. S. Route 51. The property is bounded on the west by land occupied by a private manufacturing facility; on the north by an Illinois Central Railroad right-of-way; and on the south by U. S. Route 40. VanTran has manufactured electrical transformers at the facility since 1962. Prior to mid 1976, VanTran manufactured and repaired PCB transformers at the Vandalia facility.

Site History

VanTran personnel report that prior to June 1985, waste liquids and sludges and other spent solvents generated during painting operations conducted at the plant were placed in a small, unlined surface impoundment located on the plant site. The surface impoundment is approximately eight feet in diameter and three-inches deep. According to VanTran personnel, the surface impoundment was the only on-site area intentionally used for placement of wastes.

Description of Wastes

Hazardous wastes that were placed in the surface impoundment were spent ignitable non-halogenated solvents (D001): xylene, toluene and methyl ethyl ketone. Small quantities of spent solvents were generated during painting, stripping and cleaning operations conducted as part of the transformer manufacturing operations at the plant.

Hazardous substances that were detected in the impoundment were PCBs, lead and cadmium. The specific sources of PCBs and metals in the impoundment are not known.

Estimates of the quantity of waste materials placed in the impoundment are not available because records were not kept during the period of operation. In June 1985, VanTran personnel excavated the soil from the impoundment to an average depth of about one foot and placed all excavated soil in five, 55-gallon steel drums. This was done in an effort to minimize any potential environmental risks associated with the impoundment. Following excavation of the impoundment area, a containing berm approximately 12 inches high was pushed into the excavation as partial backfill. The excavation was then backfilled to grade level using off-site fill material.

The surface impoundment was in operation prior to promulgation of RCRA regulations. VanTran did not submit a Notification of Hazardous Waste Activity or a Part A RCRA permit application covering the surface impoundment, reportedly because plant personnel were unaware of the regulatory requirements.

III. PRELIMINARY CONTAMINANT ASSESSMENT SAMPLING AND ANALYTICAL RESULTS

Baker was contracted by VanTran to perform a preliminary contaminant assessment of their Vandalia, Illinois facility in accordance with a workplan formulated by Envirodyne Engineers, Inc., the IEPA's contracted consultant as modified in the Consent Plan (See Appendix B). The following is a description of the field investigation procedures and subsequent analytical results.

Surveying and Mapping

Henry, Meisenheimer and Gende, Inc. of Carlyle, Illinois was subcontracted by Baker to produce a topographic map of the facility. All surveying activities were performed utilizing standard surveying techniques and methods.

A Site Plan, (Plate 1) for the facility was produced defining the following:

- *Locations of buildings, ditches, fences and other prominent features*
- *Locations of any underground pipes and utilities*
- *Elevations and locations of roads/driveways providing access to the site*
- *Ground and top-of-casing elevations for existing and new monitoring wells/piezometers*
- *Ground elevations and locations of soil borings*
- *Locations of wipe samples*

All horizontal locations are referenced to Illinois State Plane Coordinates to within one-half foot accuracy, and vertical elevations are referenced to National Geodetic Vertical datum (mean sea level) to within a 0.1 foot accuracy. The site map shows one foot contours, with a scale of 1 inch = 20 feet.

Soils Assessment

To determine the presence, nature and extent of contaminants in soils at the VanTran facility, Baker initiated field sampling activities on April 20, 1987.

Soil sampling activities consisted of the collection of composite surface soil samples, and the collection of depth discrete subsurface soil samples. Sampling locations were determined by the Baker geologist and IEPA representative to conform to the requirements of the "Consent Plan" and the EEI work plan. All sample locations are labeled on the Site Plan on Plate 1.

A summary of soil sample identification numbers, source and depth of collection of samples from both the soil boring program and the monitor well boring program is presented in Table 1.

Composite surface soil samples representing the upper six to eight inch interval were collected from three areas indicated in the EEI workplan (e.g., south of the loading dock, west of the cooling rack and northeast of the production building). All three composite soil samples were collected by a qualified Baker geologist, in the presence of the designated IEPA representative. Three aliquots were obtained for each sample by manually advancing a two-inch inner diameter auger to a depth of six to eight inches below the surface. The sampling device was steam cleaned prior to use and rinsed with isopropanol and distilled water between sampling locations. Samples were transferred to sample containers using a disposable wooden spatula. Sample containers consisted of one, two-ounce glass jar with a teflon lid, and one, thirty-two-ounce glass jar with a teflon lid. Sample containers were clearly labeled and placed into a cooler with ice packs.

Drilling, subsurface soil sampling, and groundwater monitoring well installation were performed by PSI, Inc. under the direction of a qualified Baker geologist. The borings were advanced using a truck-mounted CME-55 rotary drill rig, equipped with 3-1/4-inch hollow stem augers.

TABLE 1
SUMMARY OF SOIL SAMPLES
PRELIMINARY CONTAMINANT ASSESSMENT
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

SAMPLE I.D.	DATE COLLECTED	SOURCE	DEPTH INTERVAL (feet)
2000	04/21/87	SB-4	Composite 0-0.5
2001	04/21/87	SB-1 SB-2 SB-3	Composite 0-0.5
2002	04/21/87	SB-6 SB-7 SB-8	Composite 0-0.5
2018**	04/23/87	SB-C	0-1
2019**	04/23/87	SB-C	1-2
2020**	04/23/87	SB-C	2-3
2021**	04/23/87	SB-C	3-4
2022**	04/23/87	SB-C	4-5
2023**	04/23/87	SB-C	5-6
2024**	04/23/87	SB-C	6-7
2025	04/23/87	SB-D	0-1
2026	04/23/87	SB-D	1-2
2027	04/23/87	SB-D	2-3
2028	04/23/87	SB-D	3-4
2029	04/23/87	SB-D	4-5
2030	04/23/87	SB-D	5-6
2031	04/23/87	SB-D	6-7
2036*	04/27/87	SB-B	0-1
2037	04/27/87	SB-B	1-2
2038	04/27/87	SB-B	2-5
2039	04/27/87	SB-B	5-8

** - Sample relinquished to IEPA representative.

D - Duplicate sample.

* - Split sample with IEPA representative.

TABLE 1
SUMMARY OF SOIL SAMPLES
PRELIMINARY CONTAMINANT ASSESSMENT
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

SAMPLE I.D.	DATE COLLECTED	SOURCE	DEPTH INTERVAL (feet)
2040D	04/27/87	SB-B	5-8
2041	04/27/87	SB-B	8-9
2042	04/27/87	SB-B	9-10
2043	04/27/87	SB-B	10-11
2044	04/27/87	SB-B	11-12
2045	04/27/87	SB-A	0-1
2046	04/27/87	SB-A	1-2
2047	04/27/87	SB-A	2-5
2048D	04/27/87	SB-A	2-5
2049*	04/27/87	SB-A	5-8
2050	04/27/87	SB-A	8-9
2051	04/27/87	SB-A	9-10
2052	04/27/87	SB-A	10-11
2053	04/27/87	SB-A	11-12
2004	04/21/87	MW-A	0 - 1.5
2005	04/21/87	MW-A	4.5 - 6
2006	04/21/87	MW-A	9 - 10.5
2007	04/21/87	MW-A	13.5 - 15
2008*	04/21/87	MW-A	18 - 20
2009	04/22/87	MW-C	0 - 1.5
2010	04/22/87	MW-C	6 - 7.5
2011	04/22/87	MW-C	9 - 10.5
2012	04/22/87	MW-C	12 - 13.5
2013D	04/22/87	MW-C	12 - 13.5

** - Sample relinquished to IEPA representative.

D - Duplicate sample.

* - Split sample with IEPA representative.

TABLE 1
SUMMARY OF SOIL SAMPLES
PRELIMINARY CONTAMINANT ASSESSMENT
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

SAMPLE I.D.	DATE COLLECTED	SOURCE	DEPTH INTERVAL (feet)
2014**	04/23/87	MW-B	0 - 1.5
2015**	04/23/87	MW-B	4.5 - 6
2016**	04/23/87	MW-B	9 - 10.5
2017**	04/23/87	MW-B	13.5 - 15
2032	04/24/87	MW-D	0 - 1.5
2033	04/24/87	MW-D	4.5 - 6
2034	04/24/87	MW-D	9 - 10.5
2035	04/24/87	MW-D	12 - 13.5

** - Sample relinquished to IEPA representative.

D - Duplicate sample.

* - Split sample with IEPA representative.

A total of eight soil borings were advanced to depths ranging from seven to 95.5 feet. Four borings (SB-A, SB-B, SB-C and SB-D) were exclusively for soil sampling, while the remaining four borings were drilled to facilitate the installation of groundwater monitoring wells. Boring logs for all holes were prepared by a Baker geologist and are included in Appendix E.

Subsurface soil samples were collected for the purpose of chemical analyses and geological classification of subsurface materials. Soil samples were obtained using a decontaminated 1-3/8 inch diameter, 24-inch long split-spoon sampler. Split spoon sampling and standard penetration tests were performed in accordance with ASTM Method D-1586. The material was removed from the split-spoon using a disposable wooden spatula. A portion of the sample was packed in a standard two-ounce glass container and sealed tightly with a teflon lid. The remaining portion of the sample was placed in one standard 32-ounce glass container and sealed tightly with a teflon lid. No chemical preservatives were added to soil samples. All samples were properly labeled and documented, and each sample was placed in a cooler and preserved with ice packs. Split-spoon samplers were decontaminated prior to each usage and hollow stem augers were decontaminated between boreholes. The decontamination of all soil sampling equipment consisted of analconox scrub wash, high-pressure steam, an isopropanol spray rinse and finally, a clean water rinse. Liquid waste from the decontamination of sampling equipment as well as auger cuttings from soil borings, were placed in drums and stored in a staging area on-site pending sampling and analyses prior to ultimate disposal.

Soil samples collected from Boring SB-C and monitoring well MW-B were relinquished to the IEPA representative for analysis.

Chain-of-custody and analysis request forms were completed for each sample, custody seals applied to each container, bridging the side and lid of each cooler. Samples were forwarded to Gulf Coast Laboratories for analysis via Federal Express courier. Table 2 is a summary of analyses requested and test methods specified for all samples. All analyses were performed in accordance with the IEPA Contract Laboratory Program. Tabulated results of analytes detected in samples are presented in Appendix F.

TABLE 2
SAMPLE ANALYSES/TEST METHODS REQUESTED
PRELIMINARY CONTAMINANT ASSESSMENT
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

SAMPLE TYPE	NUMBER OF SAMPLES	VOLATILE ORGANICS(1)	BASE/NEUTRAL/ACID EXTRACTABLES(2)	METALS(3)	PCBs(4)
Composite Surface Soil	3			•	•
Surface Soil	1				•
Subsurface Soil	39	•	•	•	•
Wipes	5				•
Groundwater	4	•	•	•	•
Decontamination Rinsate	7	•	•	•	•

- (1) - Volatile organics by EPA Method 624 with library search.
- (2) - Base/neutral/acid extractables by EPA Method 625 with library search.
- (3) - Metals as specified in IEPA Contract Laboratory Program.
- (4) - PCBs by gas chromatographic-electron capture detection.

Auger Cuttings and Rinsate

During the execution of field investigation activities, auger cuttings, decontamination rinsate and soiled personal protective clothing were generated and handled as waste. All waste materials were placed in DOT17H, 55 gallon drums and stored on-site awaiting analysis and disposal. Table 3 is a summary of generated drummed wastes.

A total of 12 drums of material was generated. These drums were stored in a temporary secondary containment impoundment constructed on-site. Analysis was performed on seven drums containing decontamination rinsate, the results of which are presented in Appendix F. No analyses were performed on the three drums containing auger cuttings as this would duplicate analytical results for soil samples obtained during drilling and monitoring well installation activities. Similarly, no analysis was performed for the drum containing monitoring well development water, as the groundwater from each monitoring well was sampled and analyzed.

Surficial Wipe Samples

Composite wipe samples were collected at five locations on the concrete pad as indicated in the EEI workplan for the purpose of analysis for the possible presence of polychlorinated biphenyls (PCBs). Sampling locations are designated on the Site Plan (Plate 1).

Each composite wipe sample consisted of three 100 cm^2 areas sampled with cotton balls saturated with laboratory grade hexane. A template was placed at each sampling location and driller's chalk was used to mark off a 100 cm^2 area. Four or five hexane saturated cotton balls were placed inside each 100 cm^2 area using stainless steel tongs. The cotton balls were vigorously rubbed back and forth ensuring the entire surface area was wiped. The cotton balls were returned to the glass jar with a teflon lid tightly secured, proper custody seals and labeling applied, and placed in a cooler with ice packs. Table 4 is a summary of composite wipe sample identification numbers, date of collection and source. An IEPA representative observed this procedure.

TABLE 3
 DRUMMED FIELD ACTIVITY WASTES
 VANTRAN ELECTRIC CORPORATION
 VANDALIA, ILLINOIS

DRUM I.D.	VOLUME	CONTENTS	SAMPLE I.D.
1	full	Decontamination Rinsate	3004
2	1/3	Decontamination Rinsate	3005
3	full	Decontamination Rinsate	3006
4	full	Soiled Personal Protective Clothing	NA
5	2/3	Decontamination Rinsate	3008
6	full	Auger Cuttings SB-A and SB-B	NA
7	full	Auger Cuttings MW-B and MW-C	NA
8	1/2	Decontamination Rinsate	3007
9	full	Decontamination Rinsate	3009
10	full	Decontamination Rinsate	3010
11	full	Auger Cuttings MW-A and MW-C	NA
12	1/3 full	Monitoring Well Development Water	NA

NA - No analysis performed.

TABLE 4
SUMMARY OF COMPOSITE WIPE SAMPLES
PRELIMINARY ASSESSMENT
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

SAMPLE I.D.	DATE COLLECTED	SOURCE
1000	04/20/87	WS-1
1001	04/20/87	WS-2
1002	04/20/87	WS-3
1003	04/20/87	WS-4
1004	04/20/87	WS-5
2003*	04/21/87	SB-9

* Sample originally scheduled as wipe sample was collected as soil sample because concrete in this area was disintegrated.

In addition to the composite wipe samples, one sample of disintegrated concrete was collected, sample no. 2003, and submitted for PCB analysis following the protocol described above. The sampling location for sample no. 2003 was originally designated as a wipe sample location in the EEI workplan, but due to the disintegrated condition of the concrete a wipe sample could not be collected. Therefore, concrete fragments were collected as a surface soil sample using a stainless steel spatula.

All composite wipe samples were forwarded to Gulf Coast Laboratories for analysis for PCBs, along with proper chain-of-custody and analysis request forms. Analytical results for these samples are contained in Appendix F.

IV. HYDROGEOLOGIC INVESTIGATION

The objectives of this investigation were to determine the direction of groundwater flow and the elevation of the groundwater surface in the uppermost aquifer (i.e., water table aquifer) underlying the plant. The investigation was performed pursuant to the requirements specified in Article II, Subsection B of the Consent Plan between VanTran and the Illinois Environmental Protection Agency. This report provides a discussion of the investigation procedures, findings and conclusions.

Background

A hydrogeologic investigation was performed by Baker at the VanTran Electric Corporation site as part of this preliminary contaminant assessment. The objective of this phase of the field investigation was to ascertain the hydrologic characteristics of the site in order to determine the direction and velocity of groundwater movement in the uppermost aquifer. Groundwater at the site occurs primarily in two distinct aquifers. The uppermost aquifer, the water table aquifer, occurs in the granular Hagarstown Beds and the zone of saturation extends into the Vandalia till. The second aquifer occurs in the Pennsylvanian bedrock and is separated from the upper water table aquifer by more than 50 feet of glacial till. The upper water table aquifer is the primary focus of the hydrologic assessment as the deeper bedrock aquifer currently is not believed to be impacted by current site conditions.

Groundwater Monitoring Well Installations

Four groundwater monitoring wells were installed at the site. Monitor Well A (MW-A) was installed just to the north (downgradient) of existing facility and to the east of the surface impoundment pit. MW-B was installed to the northwest (downgradient) of the facility and MW-C was installed to the northeast (downgradient) of the facility. MW-D was installed south (upgradient) of the existing facility, across U. S. 40. Four additional piezometers which were installed during previous investigations also are located at the site. The locations of all wells and piezometers are shown on the Site Plan in Plate 1.

-10-

All monitoring wells were installed by Professional Service Industries, Inc., (a Baker/TSA subcontractor) under the direction of a qualified Baker geologist.

Monitoring well construction materials consisted of nominal two-inch diameter stainless steel casing and a five-foot long, two-inch diameter, .010-inch slot stainless steel screens. The boring space around the well screen, to a distance of approximately two to three feet above the top of the screen, was backfilled with Ottawa silica sand. A bentonite pellet seal approximately two feet in length, was placed directly above this sand pack. The remainder of the annular space was backfilled to the ground surface with a 50/50 mixture of cement and bentonite. A five-inch diameter steel protective casing with a locking cap was grouted into place over each of the monitoring wells. A concrete seal was installed at the surface, sloping away from the protective cover to divert rainwater away from the monitoring wells. Figure 2 is a schematic drawing of a typical monitoring well.

After the groundwater monitoring wells were installed, they were developed by bailing the water until nearly clean of silt or clay.

Borehole logs, standard penetration values and monitoring well construction details specific to each well are provided in Appendix E. The elevation of the top of the casing (groundwater level measurement point) for each monitoring well and the piezometers, as well as the ground surface, was surveyed with reference to mean sea level. These elevations are provided in Table 5.

Geologic Setting

The VanTran facility is located in an upland area near the Kaskaskia River, in Fayette County in south-central Illinois. The area near the site itself is characterized by gently rolling topography, dropping off toward the Kaskaskia River Valley just to the south of the site.

Quaternary stratigraphy is typical of this region of the State, consisting of a surficial mantling of the Wisconsin-age Roxanna Silt and Peoria Loess. Underlying these deposits are an Illinoian sequence consisting of the basal

FIGURE 2
TYPICAL GROUNDWATER MONITORING WELL SCHEMATIC

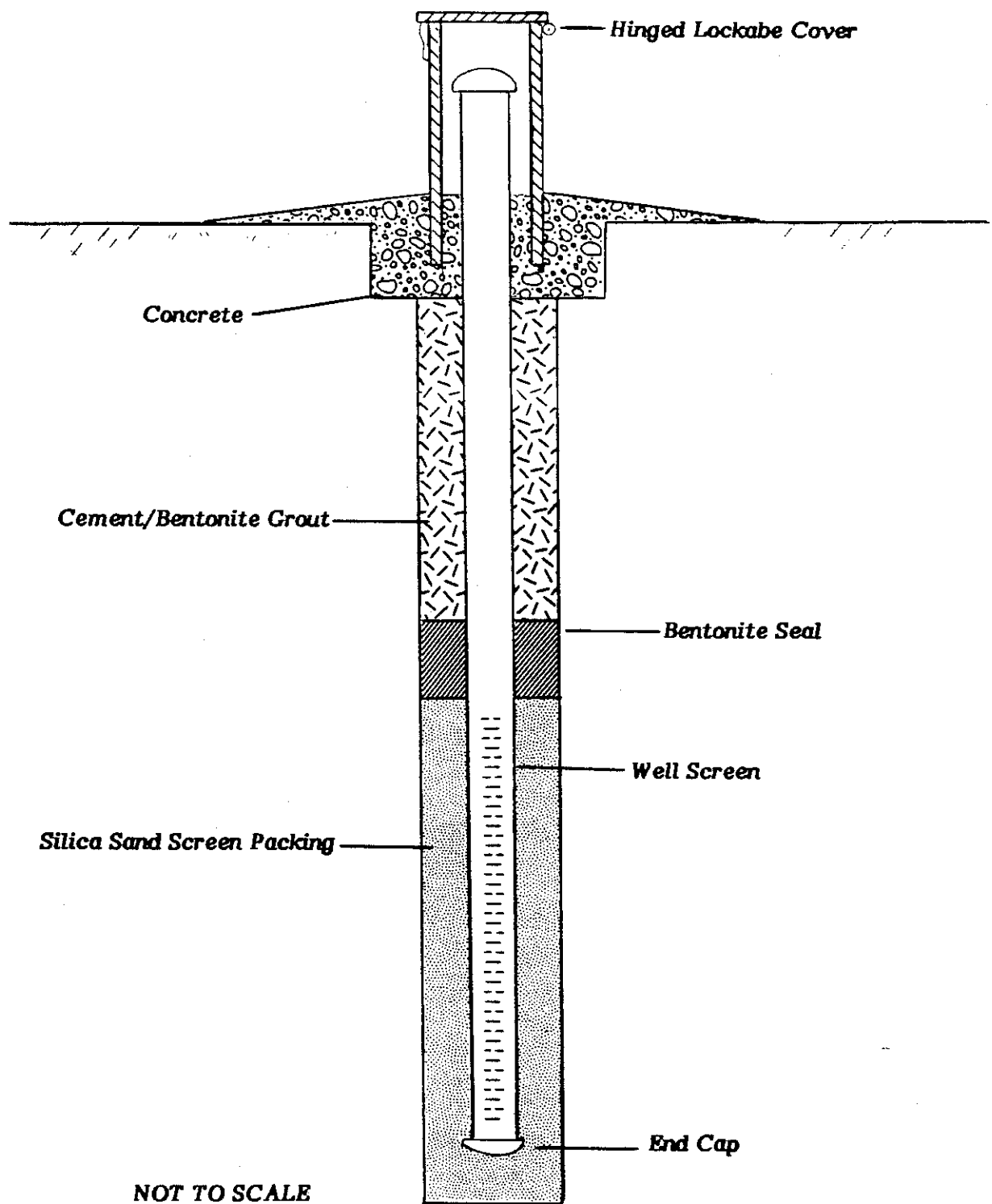


TABLE 5
MONITORING WELL ELEVATIONS
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

MONITORING WELL	ELEVATION OF TOP OF CASING (feet above MSL)	ELEVATION OF GROUND SURFACE (feet above MSL)	DATE INSTALLED
MW-A	530.03	526.25	04/21/87
MW-B	528.94	526.70	04/23/87
MW-C	527.74	524.79	04/22/87
MW-D	523.02	520.27	04/24/87
P-1*	523.60	520.59	10/15/85
P-2*	527.35	525.09	10/15/85
P-3*	530.93	528.25	10/15/85
P-4*	526.82	523.64	10/16/85

*Formerly identified as MW-1, MW-2, MW-3 and MW-4.

Smithboro till overlain by Vandalia till. These tills, in turn, are overlain by the Hagerstown Beds, a glacial outwash deposit consisting, locally, of a poorly sorted medium sand. Kansan till underlies the Illinoian sequence, and is believed to extend to the Pennsylvanian calcareous shales and clays of the Bond Formation. Total thickness of Quaternary deposits at the site is approximately 100 feet. Figure 3 shows a generalized east-west geologic cross-section and Figure 4 shows a generalized north-south geologic cross-section through the site.

On April 17, 1987, Envirodyne Engineers, Inc. submitted a report to the IEPA detailing the geology of the area in and around the VanTran site. A copy of the EEI report is presented in Appendix D.

Groundwater Flow System

Groundwater flow direction at the VanTran facility was determined from four groundwater monitoring wells installed during the field investigation activities and four piezometers installed during previous investigations at the facility.

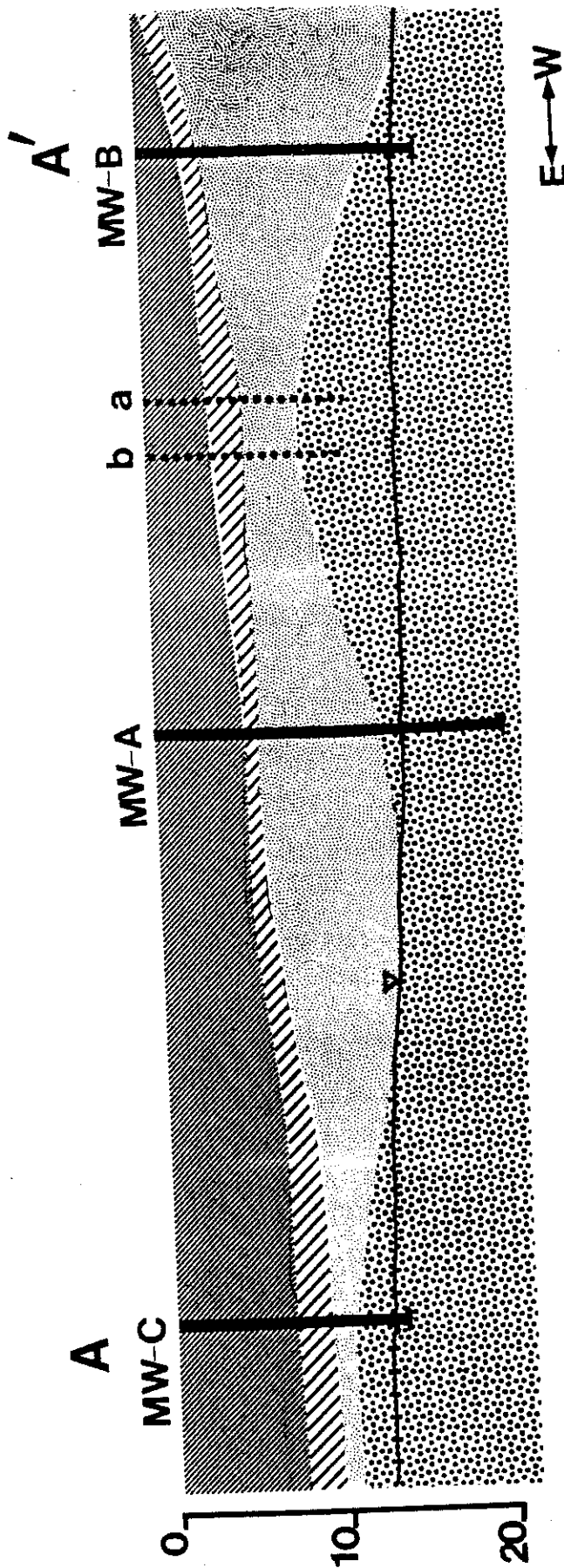
Groundwater level measurements at the facility were intermittently recorded from April through October 1987. Initial water level measurements were performed by a qualified Baker geologist, and subsequent measurements were performed by VanTran personnel. All recorded measurements are summarized in Table 6.

Upgradient wells, MW-D and P-1, are situated topographically lower relative to the other wells and have static water levels which range from 7.75 to 8.95 feet below grade. The remaining six wells are located within VanTran's property boundary and have static water levels which range from 11.65 to 17.18 feet below grade.

Groundwater elevations for upgradient wells ranged from a high of 512.52 feet to a low of 511.64 feet above MSL. Groundwater elevations for downgradient wells ranged from a high of 512.00 feet to a low of 511.08 feet above MSL.

Groundwater elevations indicate that groundwater flow is to the north. However, groundwater flow systems are dynamic and therefore minor variations in flow

FIGURE 3
EAST TO WEST GEOLOGIC CROSS SECTION
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS



- Peoria Loess - light brown, silty clay

- Roxanna Silt - light gray, silty clay

- Hagarstown beds - reddish brown, medium grained sand

- Vandalia Till - light brown, coarse grained sand

- Impoundment boring

- Monitoring Well

- groundwater surface (5/13/87)

Vertical Scale : 1" = 10'
Vertical Exaggeration X 5

FIGURE 7
SOUTH TO NORTH GEOLOGIC CROSS SECTION
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

WELL
#1 & #3

WELL
MW-A

BORING
a & b

BORING
mw-d

530

520

510

500

490

480

470

425

BORING
d

BORING
mw-d

- Peoria Loess
- Roxanna Silt
- Hagarstown Beds

- Vandalia Till

- Smithboro Till

- Kansan Till

- Limestone Bedrock

Vertical Scale : 1" = 10'
Vertical Exaggeration X 7

S ← N

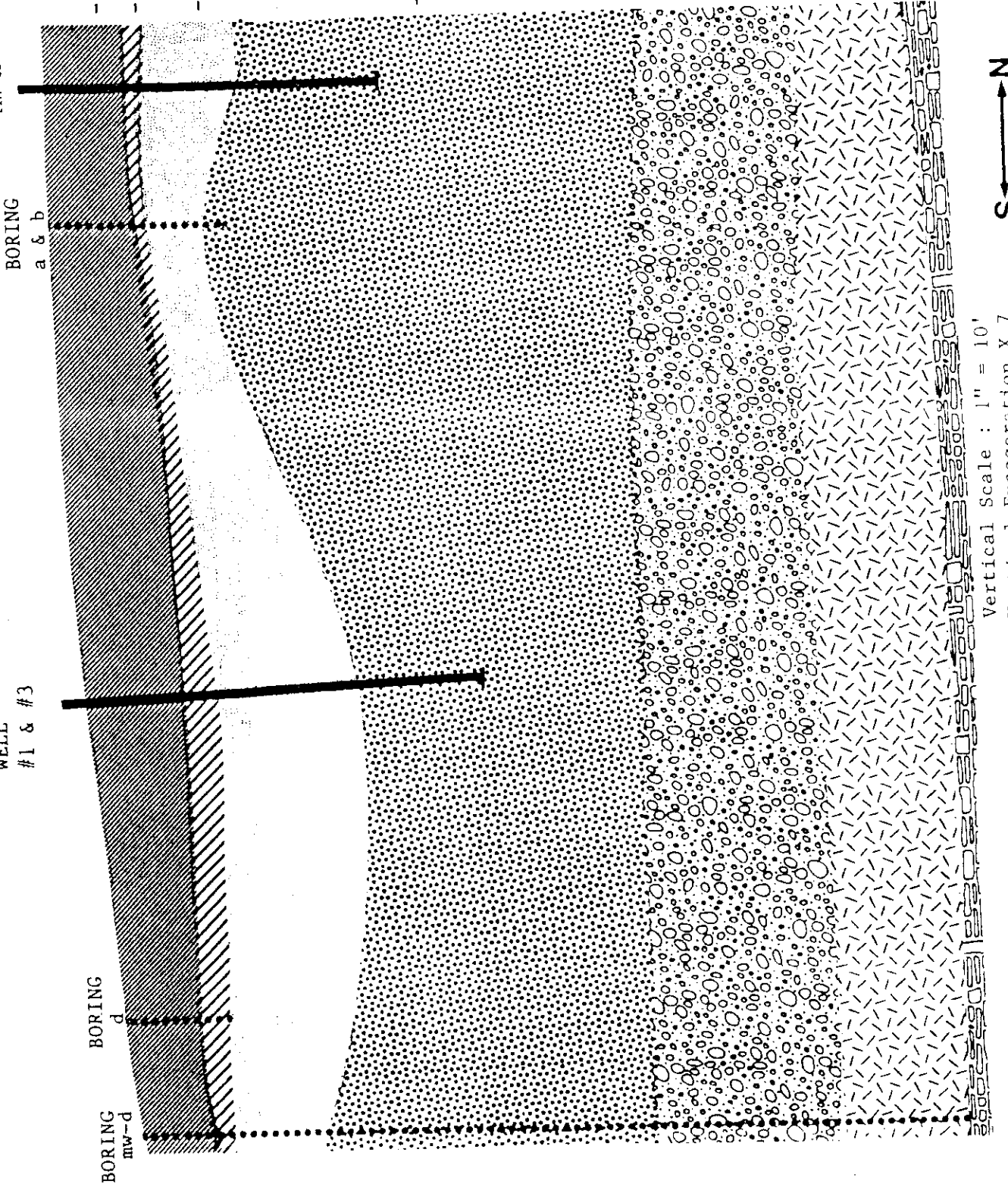


TABLE 6
GROUNDWATER ELEVATION DATA
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

Monitoring Point	Groundwater Elevations (feet above MSL)										
	4/28/87	5/13/87	7/30/87*	8/6/87	8/13/87	8/21/87	8/27/87	9/3/87	9/10/87	9/17/87	10/1/87*
MW-D	512.52	512.41	512.16	512.08	512.08	511.97	512.02	511.98	511.94	511.97	511.92
MW-C	511.89	511.74	511.47	511.29	511.29	511.23	511.23	511.22	511.18	511.17	511.18
MW-B	511.74	511.78	511.57	511.39	511.38	511.34	511.34	511.33	511.29	511.27	511.66
MW-A	511.83	511.76	511.40	511.30	511.32	511.26	511.25	511.24	511.22	511.19	511.19
P-1	512.25	512.19	511.91	511.80	511.90	511.71	511.64	511.70	511.67	511.68	511.71
P-2	512.00	511.98	511.74	511.64	511.63	511.56	511.56	511.55	511.51	511.50	511.48
P-3	511.58	511.59	511.30	511.20	511.20	511.16	511.13	511.13	511.08	511.07	511.08
P-4	512.02	511.91	511.61	511.42	511.51	511.43	511.41	511.40	511.36	511.37	511.39

*EPA representative present during data collection.

direction over time are to be expected. Typical variations are presented in Plates 2 and 3, which represent the groundwater flow direction on April 28, 1987 and September 17, 1987, respectively. The small directional change in the groundwater flow direction may result from the uniform lowering of the groundwater surface across the site.

Hydrographs for MW-D, P-2, and MW-A (upgradient, lateral, and downgradient, respectively) are presented in Figure 5 to illustrate groundwater fluctuations within the aquifer. Figure 5 indicates that during the period from April to October 1987, an average decrease of 0.57 feet occurred in the potentiometric surface across the site. Additionally, the hydrographs indicate that water level fluctuations are consistent across the site, as indicated by similar time trend profiles.

Groundwater monitoring well MW-B, located at the northwest corner of the site, recorded a significant rise in water elevation during the October 1, 1987 measuring event. This anomaly may be due to a measurement error during data collection, as no other wells registered a similar increase and there is no apparent source for rapid recharge.

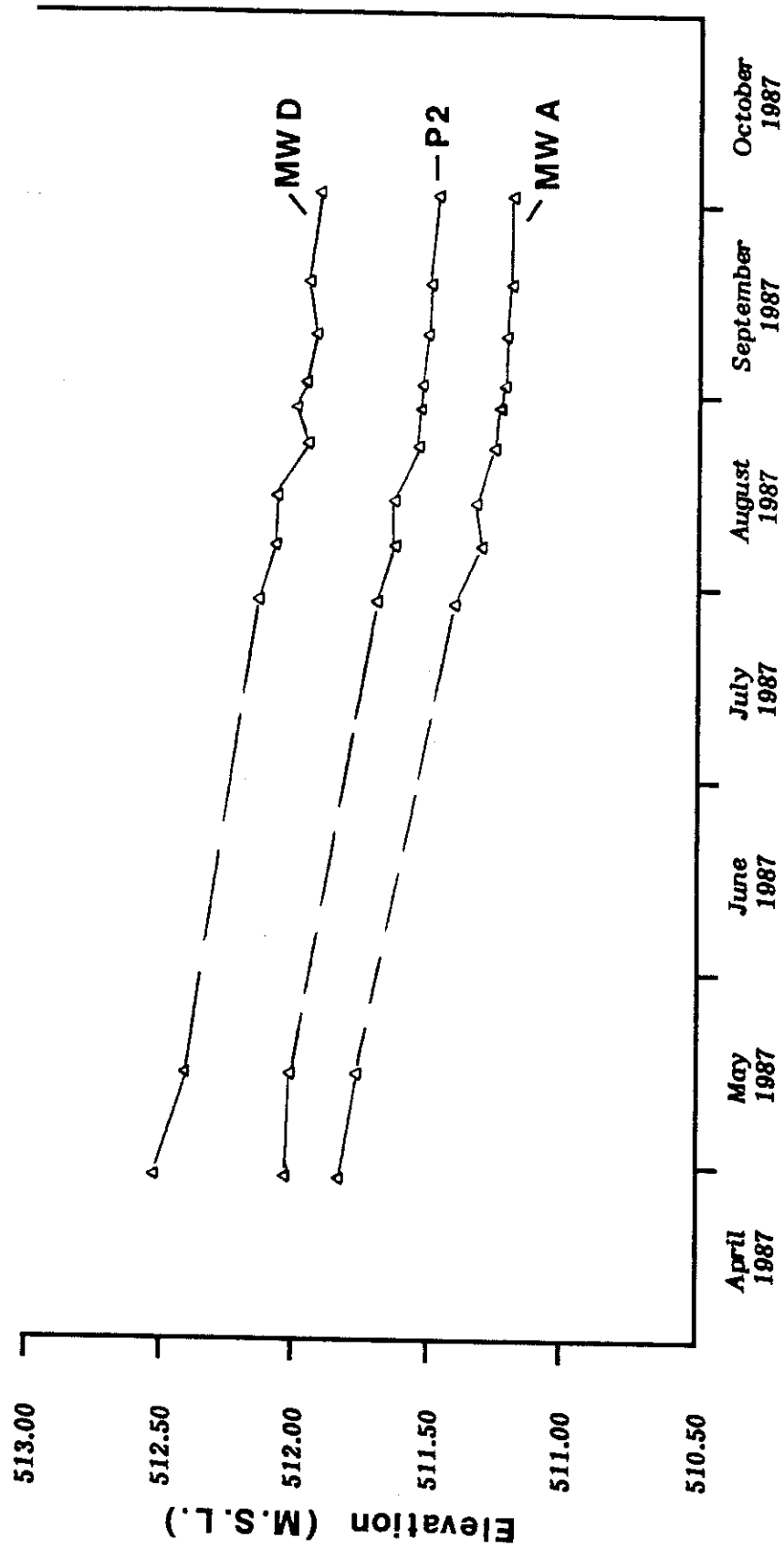
Groundwater Flow Properties

Hydrologic aquifer properties were investigated in order to characterize the groundwater flow system at the facility. These properties include hydraulic gradient, porosity, and permeability. A description of each of these properties follows.

A. Horizontal Hydraulic Gradient

The hydraulic gradient (dh/dl) of a water-bearing formation is a ratio of the difference in water level elevations at two points (dh) to the horizontal difference between the two points (dl). Therefore, the hydraulic gradient is the change in unit head per unit distance in the direction in which the maximum rate of decrease in head occurs. Hydraulic gradients were determined by the method described in USGS Water Supply Paper #2220 entitled "Basic Groundwater Hydrology."

FIGURE 5
HYDROGRAPH OF SELECTED WELLS
VANTRAN ELECTRIC CORPORATION



Horizontal hydraulic gradients were investigated on two separate dates, April 28 and September 17, 1987. The hydraulic gradient of the water table aquifer as determined between Wells MW-D to MW-A, P-1 to MW-A, and P-2 to MW-B, is calculated to range from a low of 0.0011 feet per foot to a high of 0.0016 feet per foot. The average hydraulic gradient is calculated to be 0.0014 feet per foot. These hydraulic gradients indicate potentially low velocities for groundwater flow beneath the site. A summary of calculated hydraulic gradients is provided in Table 7.

B. Porosity

The porosity of an aquifer formation is the ratio of the volume of the interstices or void space to the total bulk volume. Porosity is an index of the amount of groundwater that can be stored in a saturated medium, and is often influenced by particle shape, degree of compaction and cementation, and the particle size distribution. In general, gravels, sands, and silts consist of angular and rounded particles which have lower porosities than materials rich in clay minerals. Poorly sorted deposits have lower porosities than well-sorted deposits.

The porosity value for the subsurface glacial materials at the VanTran facility has been estimated at 0.20 to 0.45, based on values obtained for similar materials, as presented in Driscoll, 1986; McWhorter and Sunada, 1977; Todd, 1980; and Zapanazec, 1982. The water table aquifer consists of irregular and gradational glacial sand, silt, and clay deposits of varying thickness, sorting, and degree of compaction, therefore a range in porosity is expected.

C. Permeability

The Consent Plan indicates that samples should be obtained from the screened area of the monitor wells to be analyzed for permeability. However, due to the granular nature of the glacial outwash aquifer, the samples were not cohesive enough to perform laboratory permeability tests that would be representative of actual groundwater conditions.

TABLE 7
SUMMARY OF CALCULATED HORIZONTAL HYDRAULIC GRADIENTS
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

Measuring Points	Groundwater Elevation Data (feet above MSL)		Hydraulic Gradient (ft/ft)	
	4/28/87	9/17/87	4/28/87	9/17/87
MWD P-2 MWA	512.52 512.00 511.83	511.97 511.50 511.19	0.0012	0.0016
P1 P4 MWA	512.25 512.02 511.83	511.68 511.37 511.19	0.0011	0.0012
P2 MWA MWB	512.00 511.83 511.74	511.50 511.19 511.27	0.0016	0.0015

Based on results of groundwater sampling and analysis, the groundwater pathway for off-site contaminant migration does not appear to be of concern. Therefore, the need for quantitative permeability testing should be reconsidered. If groundwater flow velocity becomes an issue in the future, wells can be tested by in-situ permeability test methods, which would provide more representative data than would laboratory test methods.

Groundwater Flow Summary

Groundwater flow at the VanTran site is to the north, with minor variations in flow direction over time due to the dynamic nature of the groundwater system. Horizontal hydraulic gradients suggest relatively low velocity groundwater flow rates, which appear to be uniform across the site. Static water levels from April 28, 1987 to October 1, 1987 for upgradient wells MW-D and P-1 ranged from 7.75 feet to 8.95 feet below grade, while actual on-site wells ranged from 11.65 feet to 17.18 feet below grade. Groundwater elevations for upgradient wells ranged from a high of 512.52 feet to a low of 511.64 feet above MSL. Groundwater elevations for downgradient wells ranged from a high of 512.00 feet to a low of 511.08 feet above MSL.

Porosity values for the subsurface geologic materials have been estimated to range from 0.20 to 0.45. Laboratory permeability test could not be performed due to the physical characteristics of the samples from the saturated zone in the upper aquifer.

V. GROUNDWATER QUALITY INVESTIGATION

One round of groundwater sampling was conducted as part of this investigation. On May 13, 1987 monitoring wells MW-A, MW-B, MW-C, and MW-D were purged and samples were obtained according to the methodology described below. Analytical results are presented in tabulated form in Appendix F.

Sampling Methodology

For the May 13, 1987 sampling event, the following sampling protocol was followed:

- A minimum of three times the volume of standing water from each individual well was removed with a clean decontaminated bottom loading teflon bailer.
- Samples were obtained using a bottom loading teflon bailer. Sample water was poured directly from the bailer into clean sample containers that were equipped with teflon lids.
- Sample jars were properly labeled and cooled to 4°C with ice in coolers. A summary of sample identification numbers and results of field measurements are presented in Table 8.
- Samples were delivered to Gulf Coast Laboratories under chain-of-custody, with request that the analytical tests be performed according to contract lab protocol for the parameters presented in Table 2.

TABLE 8
GROUNDWATER SAMPLES
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

SAMPLE I.D.	DATE COLLECTED	SOURCE	TIME	FIELD TEST RESULTS		
				pH	TEMPERATURE (°F)	CONDUCTIVITY (μmhos/cm)
3000	05/13/87	MW-D	1127	7.15	58	700
3001	05/13/87	MW-C	1330	7.15	61	900
3002	05/13/87	MW-A	1440	7.39	65	1000
3003	05/13/87	MW-B	1520	7.29	64	700

VI. RESULTS AND CONCLUSIONS

Tabulated analytical results for the preliminary contaminant assessment are included in Appendix F. General results are categorized as follows.

Metals - Lead and zinc were detected in the soils of the surface impoundment area. Concentrations are progressively lower as depth increases, dropping off considerably at depths below eight to 10 feet.

At other boring locations, concentrations of lead and zinc are present in the upper one to three feet of soil, and the levels also attenuate as depth increases.

Low levels of cadmium are present in the upper one to three feet of soil at all sampling locations.

These results are essentially the same as those that were reported in the preliminary site screening assessment, which was conducted in October 1985.

PCBs - Results are categorized by sampling location. Four sample categories are presented: surficial wipe sample; surface soil composites; soil borings within surface impoundment; and soil borings outside surface impoundment. General results are summarized below:

- Surficial Wipe Samples - Total PCB concentrations ranged from <1 to 5,280 micrograms per 100 square centimeters, with one crushed concrete sample exhibiting a concentration of 124 mg/kg.
- Surface Soil Composites - Three surface composite samples (#2000, 2001, and 2002) collected from the depth interval of 0

to one-half foot indicate total PCB concentrations of 11 mg/kg, 62 mg/kg, and 3 mg/kg, respectively.

- Soil borings within surface impoundment - PCBs were detected at elevated concentrations in the upper five feet of the surface impoundment. Total PCB levels ranging from <1 mg/kg to 3 mg/kg were detected to a depth of twelve feet, which was the maximum depth of boring.
- Soil borings outside surface impoundment - Analytical results from soil boring SB-C, located in the drainage way in the southeast corner of the site, indicate very high concentrations of PCBs to a depth of seven feet below grade level, which was the maximum depth of boring. At other soil boring locations, concentrations of PCBs equal to or less than 1.2 mg/kg were detected, with the exception of SB-D which exhibited a total PCB concentration of 4 mg/kg in the upper one foot of the boring.

Organics -

Results of organic compounds detected in soil borings are summarized according to the location of the soil boring with respect to the surface impoundment. Results are presented below:

- Soil borings within the surface impoundment - A variety of organic compounds were detected in the soils of the surface impoundment. Organic compounds were detected to a depth of 12 feet below grade; however, the concentrations of these organic compounds greatly attenuate with increasing depth.
- Soil borings outside the surface impoundment - A few organic compounds were detected at varying depths in soil borings outside the surface impoundments. Typically, the concentrations of these organic compounds are greatest at the surface and attenuate with increasing depth. An exception to this occurrence is surface boring SB-C, which exhibits elevated

concentrations for a variety of organic compounds to a depth of seven feet below grade.

Groundwater - Groundwater samples collected at the site appear to be relatively contaminant free. Concentrations of lead and cadmium slightly above their respective Primary Drinking Water Standards (PDWS) were detected in both upgradient and downgradient monitoring wells. However, it should be noted that groundwater samples for metals were not filtered; therefore, cadmium and lead concentrations are reported as "total metals."

Volatile organic compound 1,1,1-trichloroethane was detected in monitoring well MW-B at a concentration of 10 µg/l, which is well below the 1987 established PDWS for 1,1,1-trichloroethane of 200 µg/l.

Conclusions drawn from the results of this study can be summarized as follows:

- PCB contamination within the surface impoundment generally is limited to the upper five feet of soil.
- Organic contamination within the surface impoundment is evident to a depth of 12 feet below grade; however, attenuation of these organic compounds occur with increasing depth.
- PCB and Organic contamination is indicated along the drainage ditch in the southeast corner of the facility to a depth of at least seven feet below grade.
- In other areas of the site, soils contaminated with PCBs and organics appears to be limited generally to the upper one foot of soil with attenuation at greater depths.
- Groundwater does not appear to be a significant pathway for contaminant transport at this time.

VII. RECOMMENDATIONS

1. Additional surface and subsurface soil sampling should be conducted in the area of the surface impoundment and in the southeast corner of the site in the vicinity of soil boring SB-C. The purpose of this sampling is to more clearly define the nature, magnitude and extent of soil contamination indicated by the results of the preliminary contaminant assessment.
2. Additional groundwater sampling should be conducted at least quarterly in the existing groundwater sampling wells at the site in order to ensure that soil contaminants detected during the preliminary contaminant assessment are not leaving the site via the groundwater pathway.

APPENDIX A
ANALYTICAL RESULTS, PREVIOUS STUDIES
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

TABLE A-1
 VANTRAN ELECTRIC CORPORATION
 VANDALIA, ILLINOIS
 RESULTS OF LIQUID AND SOIL SAMPLING* IN SMALL
 SURFACE IMPOUNDMENT
 JUNE 3, 1985

(All analytical results expressed in parts per million)

COMPOUND	LIQUID SAMPLES**	SOIL SAMPLES***
PCBs		162
Benzene	6	-
Lead	55	25
Methyl Ethyl Ketone	21,000	4,000
Toluene	37,000	620
Xylene	25,000	35,000

- * Samples obtained from surface of impoundment by IEPA personnel.
- ** Samples consisted of standing liquid on surface of impoundment.
- *** Samples consisted of a soil and liquid mixture on surface of impoundment.

TABLE A-2

VANTRAN ELECTRIC CORPORATION, VANDALIA, ILLINOIS
RESULTS OF SOIL SAMPLING IN SMALL SURFACE IMPOUNDMENT - OCTOBER 15-17, 1985

(All analytical results expressed in parts per million~ppm)

DEPTH INTERVAL	BORING LOCATION A - EAST			BORING LOCATION B - WEST		
	PCBs*	VOLATILE ORGANICS**	METALS***	PCBs*	VOLATILE ORGANICS**	METALS***
0 to 1 foot	2300 (1254) 440 (1260)	BDL	170 (lead) 20 (zinc)	330 (1248)	BDL	190 (lead) 380 (zinc)
1 foot to 2 feet	1100 (1248)	BDL	110 (lead) 25 (zinc) 2.2 (cadmium)	72 (1242)	550 (xylene)	14 (lead) 150 (zinc)
2 feet to 3 feet	46 (1016)	BDL	14 (lead) 6 (zinc)	21 (1016)	30 (toluene) 190 (xylene) 1500 (MEK)	8.4 (lead) 25 (zinc)
3 feet to 4 feet	15 (1242)	BDL	13 (lead) 32 (zinc)	15 (1016)	180 (toluene) 1600 (xylene)	12 (lead) 19 (zinc)
4 feet to 5 feet	8.1 (1248) 4.0 (1254)	BDL	10 (lead) 21 (zinc)	10 (1016)	160 (toluene)	25 (lead) 15 (zinc)
5 feet to 6 feet	BDL	BDL	11 (lead) 23 (zinc)	16 (1232)	5 (benzene) 340 (toluene) 8800 (xylene)	7.6 (lead) 15 (zinc)
6 feet to 7 feet	3.4 (1260)	BDL	10 (lead) 21 (zinc)	BDL	BDL	11 (lead) 23 (zinc)
7 feet to 8 feet	BDL***	BDL	5.4 (lead) 23 (zinc)	3.8 (1242)	BDL	7.4 (lead) 20 (zinc)

* Samples were analyzed for PCBs utilizing gas chromatograph/electron capture techniques; limit of detection - 2 ppm.
Number in parentheses represents PCB formulation.

** Samples were analyzed for benzene, toluene, xylene and methyl ethyl ketones utilizing gas chromatograph/mass spectrophotometric techniques; limits of detection: benzene - 1 ppm; toluene - 10 ppm; xylene - 30 ppm and methyl ethyl ketone - 100 ppm.

*** Samples were analyzed for lead, zinc and cadmium utilizing atomic absorption flame photometric techniques; limits of detection - 1 ppm.

APPENDIX B
WORKPLAN FOR VANTRAN ELECTRIC CORPORATION
PREPARED BY: ENVIRODYNE ENGINEERS, INC.
PREPARED FOR: ILLINOIS EPA

ENVIRODYNE
ENGINEERS

RECOMMENDATIONS FOR FURTHER INVESTIGATION
VAN TRAN ELECTRIC COMPANY

Illinois Environmental Protection Agency
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Springfield, Illinois 62706

Envirodyne Engineers, Inc.
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St. Louis, Missouri 63146

January 1987

3059-30000

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I. PURPOSE AND OBJECTIVES

The purpose of the Van Tran Electric contamination assessment is to establish to what extent the property in question is a source of contamination with potential for release to the surrounding environment. The objectives are to characterize potential contaminant sources and to delineate any pathways of migration to off-site media or receptors.

The assessment activities proposed in this plan are necessary to perform a preliminary contamination assessment on-site. The program may have to be extended into further assessment activities, depending on the results obtained from this proposed investigation.

II. OVERVIEW OF INFORMATION AVAILABLE TO DATE

A. IEPA Files

The IEPA files contained sufficient information to establish the existence of environmental contamination, but not enough to define its extent.

B. Site Visit

With the permission of Van Tran, representatives of IEPA and EEI performed a brief site reconnaissance on May 15, 1986. The reconnaissance consisted solely of a walk-through. No sampling or interviewing of personnel was performed. Noted on the walk-through were general site layout, areas of obvious staining, unvegetated areas, placement of existing wells, and surficial drainage patterns.

C. Request for Additional Information

On May 28, 1986, a meeting was held at the Illinois Attorney General's office in Springfield, IL. In attendance were representatives of: the Attorney General, Van Tran, IEPA and EEI. Matters discussed and agreed upon are summarized in a letter dated May 30, 1986 from Mark La Rose of the Attorney General's office to Greg Wolk of Tockman and Wolk (Van Tran's attorneys), and Steve Parke, Vice President of Van Tran.

Of particular interest to EEI was information concerning the preliminary assessment Baker/TSA performed at the site as well as information from Van Tran on the sources of fill material used at their pit, an inventory of chemicals used, and a history of site operations.

D. Assessment of Baker/TSA's Information

The scope of Baker's services at the site were expressly limited to an initial preliminary assessment. The results of this assessment are illustrated on Sketches 1 through 3 in Appendix A of this report.

III. RECOMMENDATIONS FOR OBTAINING ADDITIONAL INFORMATION

Based on Baker's preliminary investigation, data in the IEPA files, observations from the May on-site walk-through, and the absence of complete data on past operations, we recommend the following site investigation program. (Although this report outlines techniques to be used in this program, all site work will be governed by IEPA-approved work plans, quality assurance plans, and health and safety plans.)

A. Mapping

Produce a topographic survey of the site, using aerial photography, mapping horizontal distances of the physical features and facilities to a horizontal datum based on the Illinois State Plane Coordinate System and vertical distances to the National Geodetic Vertical Datum (mean sea level). The survey crew will establish, in the field, the vertical and horizontal controls. This control will be used to accurately locate appurtenances, roads, drainage ditches, culverts, pipes, fences, buildings, etc. The accuracy of the measurements will be within 0.5 feet horizontal and 0.1 feet vertical. The site map will be prepared on a format of 24 by 36 inches for the entire property showing 1-foot contours, with a scale of 1 inch = 100 feet.

The four existing wells will be shown on the site map. Additionally, a tabulated list will be prepared showing the coordinates to the closest foot, natural ground elevation to the nearest one-tenth foot, and the top elevation of the monitoring well riser pipes to the closest one-hundredth foot. All final drawings will be sealed by an Illinois Registered Land Surveyor.

Any other wells installed as a part of this assessment will be surveyed in a similar manner and included on a finalized site map.

B. Groundwater Monitoring Wells

1. Existing Wells

The existing set of wells was not designed for the purposes of groundwater monitoring and is not adequate for that purpose. Once these wells have been surveyed, however, they will prove valuable in obtaining initial water level and flow direction information needed to provide guidance for the placement and installation of an adequate monitoring system.

2. Recommended Well Program

We recommend the following program to assess groundwater contamination at the site:

- Coordinate with the Illinois State Geological Survey and local well drillers to obtain all available information on local stratigraphy and aquifer characteristics.
- Survey the existing wells as described
- Determine water levels in these wells to the nearest 0.05 foot from the top of the surveyed casing.

- Prepare a preliminary water-level contour map based on the measurements.
- Based on these water-level contours, the information above, and surficial drainage patterns (the most likely contaminant transport corridors), install a groundwater monitoring system consisting of a series of stainless steel wells.

To serve as a monitoring system, a minimum of four wells will be required; one upgradient from the contaminant sources and three downgradient from them. Due to the site's small size, relatively flat topography, and the probability of groundwater "mounding" at the site, the upgradient well will probably have to be placed off-site to serve as a background well in terms of contamination.

A preliminary idea of placement of these wells is shown in Sketch A.

a. Well Placement - Placement of these wells is contingent upon the groundwater flow direction as determined from the existing wells.

b. Well Installation - Prior to installation of monitoring wells, a single boring will be made to bedrock upgradient of the site (in terms of groundwater flow). During the boring, samples for physical inspection will be taken at each stratum change or at a minimum of every 5 feet. The samples will be described and the borehole logged in the field. Information from this boring will be used as a partial basis for well and screen design and placement. Subsequent to sampling and logging, the borehole will be back-filled and sealed with a bentonite/cement grout to approximately the depth of the setting of downgradient wells. A well will then be placed in this borehole to serve as an upgradient background well (Well "E").

Once the placement and design of the wells has been decided, wells will be drilled using 3-3/4 inch ID hollow stem augers. Soil samples will be collected continuously. Continuous samplers will be opened immediately for the geologist's inspection and sample collection. Samples for physical analyses will be taken at each stratum change or at a minimum of every 5 feet in the upgradient boring and from the water-bearing stratum for the other 4 wells. Physical analyses will include horizontal permeability and grain-size analysis. Samples for chemical analyses will be obtained each 5-foot interval or stratum change at wells A, B and the background well. Samples at wells C and D will be obtained at 1-foot intervals to groundwater. Analytes are listed in Section F.

All casing, couplings and screens will be of 316 stainless steel, with a 2-inch inside diameter. Screens will be in 5 foot lengths and shall be slotted, wire-wound with a slot size of 0.01 inch.

Development of the wells shall be performed after the final finishing details are completed on the wells. These details include the final grouting to the surface and installation of lockable protective casing and cap. Development shall be performed by the drill crew, utilizing the rig to evacuate the appropriate amount of water from each well using air-lift techniques.

Once the borehole has been drilled to the desired depth and diameter, the installation of the monitor well will begin within 12 consecutive hours of boring completion. Once begun, monitor well installation will not be interrupted unless an unscheduled delay occurs, e.g., personal injury.

The monitor well string will be emplaced within the auger or open, mudded hole and an approved sand pack backfill will be added. Synchronized addition of the sand pack and removal of the auger string will take place in small increments (approximately 1-foot units). The sand pack will be terminated 1-foot above the top of the monitor well screen. Once the sand pack is in place, a bentonite pellet seal will be added to a minimum thickness of 2 feet. The thicknesses of the sand pack and bentonite seal will be determined through use of a weighted, steel measuring tape. The bentonite pellets will be forced out of the auger into the borehole annulus during emplacement by the use of a 3/4-inch diameter PVC "tamping tool."

After emplacement of the bentonite pellet seal, the borehole annulus will be grouted with an expanding cement mixture with 5 percent bentonite. The grout mixture will be incrementally added through a tremie line as the augers are removed. The borehole annulus will be grouted to a point above the ground surface and then mounded to shed surface water. A steel protector pipe shall be emplaced in this grout cap and fitted with a hinged lid and secured with hasp and keyed lock. The grout will be checked in 24 hours for settling, and the boring will be recapped in the same manner.

In the event that drilling fluids are needed, bentonite will be the only drilling fluid additive accepted for these types of borings. No organic additives shall be used.

The source(s) of water to be used in any phase of the well construction, including drilling, grouting, sealing, purging, well installation, well development or equipment washing, will be approved prior to its use by the IEPA Project Manager. The water source(s) should be ideally free of survey-related contaminants, verified by pre-testing. It should also come from a deep, upgradient ground water source with convenient access and good pumping capacity.

If it is ever necessary to utilize water during drilling, accurate records and measurements of used and lost fluids will be maintained. A minimum of five times the lost fluid will be purged from the well during development.

c. Well Screening - Screening depths, intervals and lengths will be determined based on information obtained from the Illinois State Geological Survey and local well drillers, flow direction determinations obtained from ground-water level measurements, and logging information obtained during the boring to bedrock described above.

d. Well Development - The development of monitor wells will be performed as soon as possible after completion of the well construction. Adequate time must be allowed for mortar to set and paint (if appropriate) on the protective casing to completely dry. Generally, 48 hours after final finishing details are completed, the wells are ready to be developed.

Wherever possible, the preferred method for development consists of pumping a minimum of five times the volume of standing water in the borehole, aided by a surge block to remove caked-on sediments from the boring walls and screen openings. A bottom-filling/discharging bailer is also used to help remove sediments from the well after surging. Normally, a stainless-steel submersible pump capable of pumping to 30 gpm is used to purge the wells.

In the case of 2-inch wells, most pumps available do not pump at high enough rates to facilitate development. In these cases, development will be carried out with a bailer and surge block only. The development shall continue in this manner until the following conditions are met:

- 1) The well water is clear to the unaided eye.
- 2) Sediment thickness at the bottom of the well is less than 5 percent of screen length.
- 3) Five times the standing water volume in the well and the saturated bore-hole annulus is removed.
- 4) Five times the amount of added fluid/water used during drilling is removed.

The development of each well should be completed at least 14 days prior to the first sample collection to allow all aquifer conditions to return to a pre-drilling/development state. A log will be kept on each well detailing the development procedures and will include the following:

- 1) Well designation
- 2) Date(s) of well installation
- 3) Date(s) and time of well development
- 4) Static water level from top of well casing before and 24 consecutive hours after development
- 5) Quantity of mud/water lost during drilling and/or fluid purging
- 6) Quantity of fluid in well prior to development; either standing in well and/or contained in saturated annulus (assume 30 percent porosity)
- 7) Any field water quality measurements made during purging (i.e., pH, conductivity, temperature, etc.)
- 8) Depth from top of well casing to bottom of well (from diagram)
- 9) Screen length (from diagram)
- 10) Depth from top of well casing to top of sediment inside well, before and after development
- 11) Physical character of removed water, to include changes during development in clarity, color, particulates and odor
- 12) Type and size/capacity of pump and/or bailer used
- 13) Description of surge technique, if used
- 14) Height of well casing above ground surface
- 15) Quantity of fluid/water removed and time for removal (present both incremental and total values)

e. Equipment Decontamination - All equipment (augers, split spoons, samplers, drill rods, etc.) which comes in contact with the borehole will be thoroughly stream cleaned and solvent rinsed between borings. Water used during the installation and decontamination phases of this task will be from a state-approved source and free from residual chlorine.

The rinsing sequence will be as follows: gross removal of cuttings from tools into drums, steam cleaning of tools over a portable steel pond, rinsing with methanol, and a final steam cleaning with the approved water. All water used in the rinsing and steam cleaning will be contained and stored on-site in a designated area in sealed DOT 17H/55-gallon drums.

All cuttings will be contained in the drums and stored on-site in the designated area.

A site for temporary storage of cuttings and liquids will be constructed in a designated area approved by the IEPA Project Manager.

f. Aquifer Testing - Aquifer testing will be performed as part of the groundwater sampling phase of the investigation. The testing program will consist of single well slug/baildown tests. Test data will be interpreted with the method described by Cooper et al. (Water Resources Research, Vol. 3, No. 1, 263-269, 1967) to determine transmissivity, hydraulic conductivity/permeability, and if the aquifer is confined or semi-confined, the storage coefficient.

To supplement this data, water level measurements will be taken bimonthly, for the duration of the project, on all monitoring wells to detect seasonal fluctuation.

g. Purging - Prior to sampling each well, five times its standing volume of water should be removed by pumping or bailing. This is done in addition to well development and is necessary prior to each sampling episode.

h. Groundwater Sample Collection - Samples from the monitoring wells will be collected one time during the site investigation. Sampling procedures will commence no sooner than two weeks after wells have been developed. This will allow for the aquifer characteristics to return to pre-drilling conditions. Sample collection will begin, however, as soon as possible following this two-week waiting period.

The wells will be measured to determine water level prior to sampling. Bailers will be used to purge and sample the wells.

All bailers will be thoroughly rinsed in deionized water between sampling of each well. A separate dedicated polypropylene line will be used as a retrieving line for each well to be sampled. This will reduce chances for cross contamination. The groundwater samples will be analyzed for volatile organics, base/neutral/acids, metals and PCBs as presented in Section F. The need for additional groundwater sampling events will be determined based on the results of this initial sampling.

C. Core Samples

While the drill rig is on-site for well installation, two cores extending to the groundwater level will be obtained from the pit.

We propose that the following logic dictate sampling intervals in the pit borings:

- 1) Sample at discrete 1-foot intervals for each of the top 1 foot and for the section of the boring from 8 feet to groundwater.
- 2) Sample the sections from 2 to 8 feet in 3-foot composites. Analyze the top 1-foot interval for PCBs and metals as described in Section F. Analyze all other samples for these parameters plus volatile organics.
- 3) During the borings, obtain field readings of volatile organics from each 1-foot interval with a portable HNU. In the event that any discrete 1-foot interval in the boring section from 2 to 8 feet indicates an HNU reading of greater than 25 ppm and the adjacent intervals do not, this interval should be analyzed for volatile organics and not be composited into the 3-foot sample composite proposed for this section of the boring.

It is anticipated that surface and subsurface samples from the areas of Sites 11 and 12 (from the Baker/TSA study) will be obtained during installation of Wells C and D. If these wells are not sited in these areas, additional corings as specified for the pit area will be required at these sites.

D. Wipe Samples

The widespread surficial PCB contamination on-site indicates multiple sources and recent or current contaminant transport. Among the potential sources are several locations on the concrete pad. EEI recommends sampling these areas for PCBs by taking composite wipe samples (2 to 3 100 cm² areas sampled and composited per site). Five sites (shown in Sketch B of Appendix B) are recommended for sampling:

- 1) Heavily stained concrete pad adjacent to pit
- 2) Stained metal in staging area on concrete pad
- 3) Concrete north of staging area (direction of drainage)
- 4) Concrete east of staging area (heavily stained)
- 5) Stained concrete around tanks staged on pad

E. Soil Samples

The soil sampling and analysis performed in the Baker study establishes the presence of contaminants in site drainageways. Several additional areas are, however, potential contaminant sources and are recommended for sampling and analysis for the parameters listed in Section F.

- 1) A composite of no more than four discrete surface samples from the graveled parking area to the east of Well 4. (This area receives sheet flow from site surface drainage.)
- 2) A similar composite from the northeast section of the site (surface drainage from around the "side building").
- 3) A similar composite from the low-lying, largely unvegetated area to the far west of the concrete pad.

The top 1-foot interval should be sampled at the areas specified. Soil probe, bucket auger, or Shelby tube methodology for sampling are all adequate. Decontamination procedures specified for wells should be followed.

As stated in previous sections, soil samples in the two southern site drainageways at their exits from the site (Baker/TSA study Sites 11 and 12) will be obtained during either well installation or core sampling.

F. Chemical Analytes

IEPA files on the site indicate the use of a wide variety of materials. Based on this information, the following chemical analytes are recommended for groundwater samples, core samples and soil samples:

- 1) Volatile Organic Compounds by EPA Method 624 with library search
- 2) Base/Neutral/Acids by EPA Method 625 with library search
- 3) Metals as specified in IEPA Contract Laboratory Program
- 4) PCBs

Detection levels and QA/QC procedures for all analytes will be those specified under the IEPA Contract Laboratory Program. Wipe samples need only be analyzed for PCBs.

IV. SUMMARY OF PROPOSED ACTIVITIES

- 1) Installation and sampling of four monitoring wells
- 2) Installation, sampling, logging and closure of one boring to bedrock
- 3) Obtaining and physical analysis of subsurface soil samples
- 4) Obtaining and chemical analysis of composite samples of surface soils, composite wipe samples, and subsurface soil samples obtained from wells and borings
- 5) Data interpretation and reporting

Estimated numbers of samples and corresponding analytical parameters are:

<u>Sample Type</u>	<u>Number of Samples by Parameter</u>			
	<u>Physical Analyses</u>	<u>VOAs</u>	<u>Metals</u>	<u>PCBs</u>
Borings-Well A	1	5	5	5
Borings-Well B	1	5	5	5
Borings-Well C	1	13	13	13
Borings-Well D (Background Well)	5	5	5	5
Wipe Samples	0	0	0	5
Borings-Pit	0	8	8	8
Surface Soils	0	0	3	3

ATTACHMENT A

MONITOR WELL INSTALLATION

SPECIFICATIONS

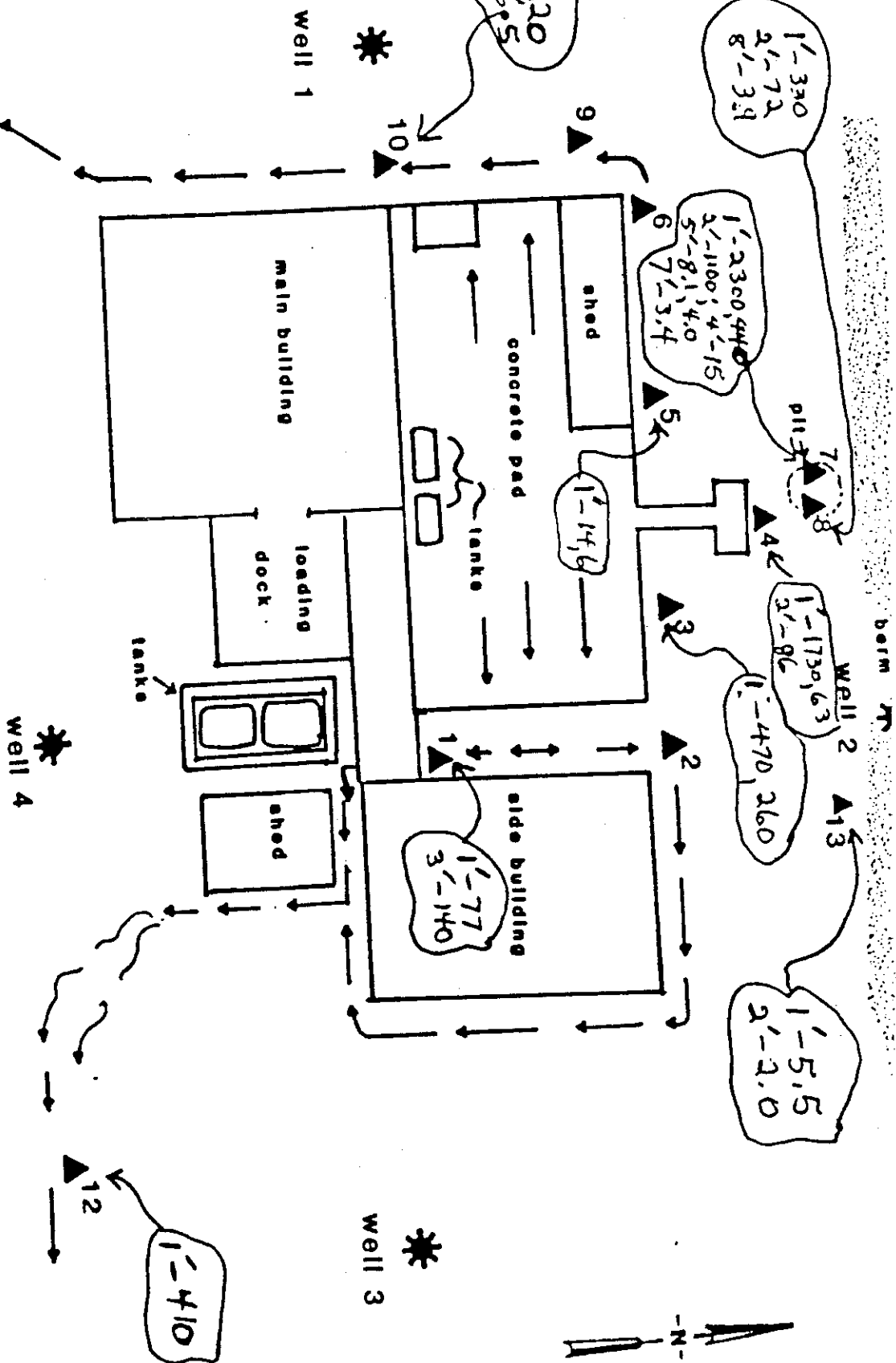
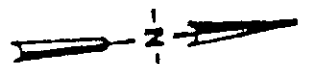
- 1) Wells to be constructed using 3-3/4 inch IDHSA in unconsolidated materials to a maximum estimated depth of 30 feet
- 2) Continuous samplers will be utilized to obtain samples for the entire length of the wells; Total Continuous Core Sampling: $30 \times 4 = 120$ feet
- 3) Well construction materials and specs:
 - a) Installation of casing through HSA, if necessary
 - b) 2 inch ID stainless steel threaded casing
 - c) 5 foot stainless steel screens, 0.01 inch slot - precut
 - d) Install protective steel risers with hinged, lockable lids
 - e) Washed silica sand as granular filter
 - f) Bentonite seal above filter
 - g) Portland/grout mix to surface
- 4) Wells will be developed by surge-block techniques
- 5) An HNU Model PI 101 photoionization detector instrument or an acceptable substitute will be utilized during these tasks to establish levels of personal protection required. If volatile emissions are detected, Level C will be specified. At a minimum, work will be done under Level D protection. Level D protection will consist of:
 - a) Rubberized gloves
 - b) Safety glasses/goggles
 - c) Hard hat
 - d) Steel toed boots
- 6) Cuttings and well development fluids to be contained in DOT 17H/55-gallon drums
- 7) Decon of all tools and equipment between borings by high pressure steam, clean water rinse, methanol rinse, clean water rinse

VAN TRAN ELECTRIC
PROPOSED PROJECT SCHEDULE

Activity	Weeks												
	0	2	4	6	8	10	12	14	16	18	20	22	24
Project Planning													
Background Information													
Mapping													
Well Installation & Development													
Well Sampling													
Core Sampling													
Wipe Sampling													
Soil Sampling													
Chemical & Physical Analysis													
Data Interpretation & Reporting													

APPENDIX A

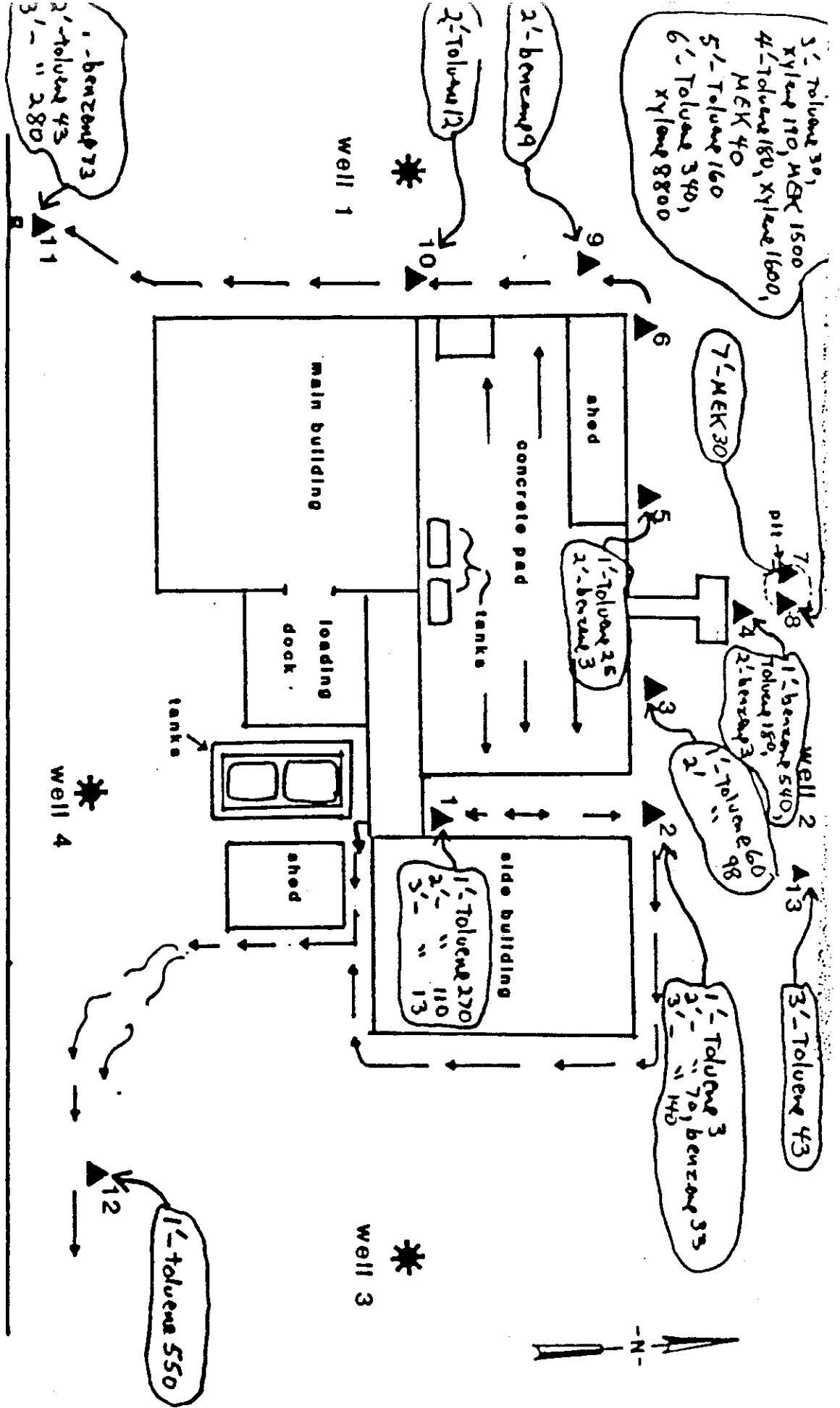
MAJOR CONTAMINATION - BAKER STUDY



Sketch 1 - PCBs (ppm)
(Baker study)

Van Tran Electric

not to scale

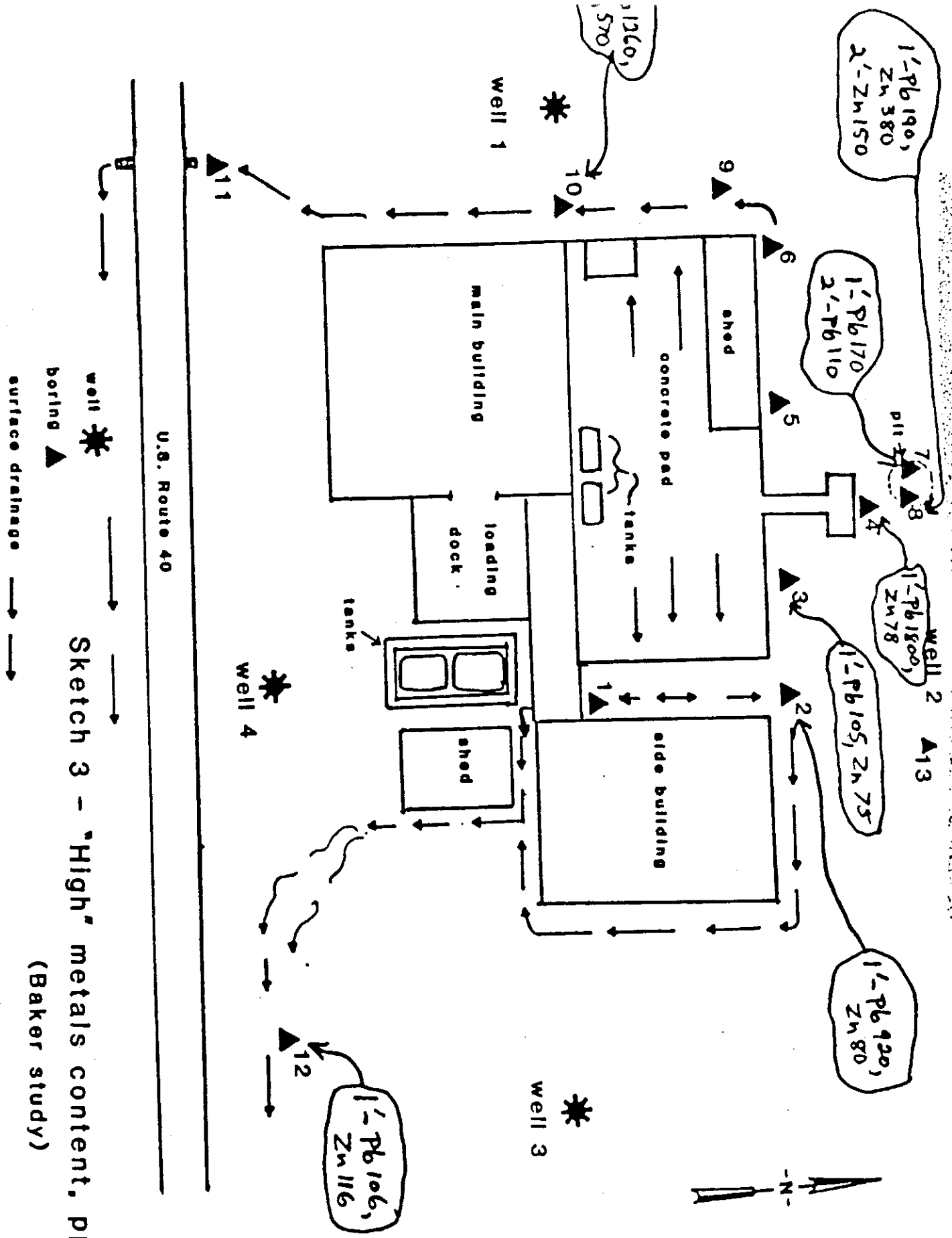


well *
 boring ▲
 surface drainage →

Sketch 2 - VOAs (ppm)
 (Baker study)

not to scale

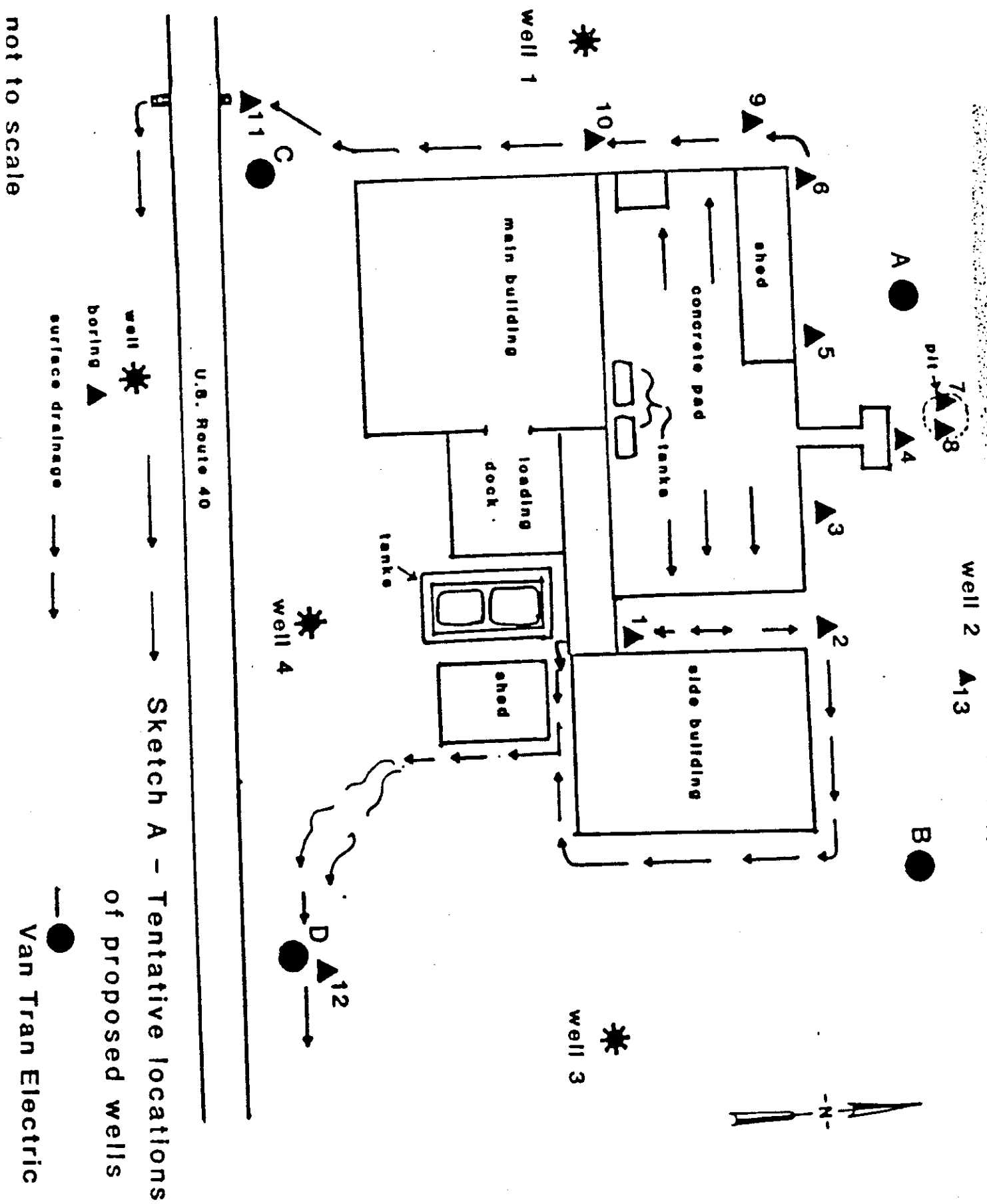
Van Tran Electric



APPENDIX B

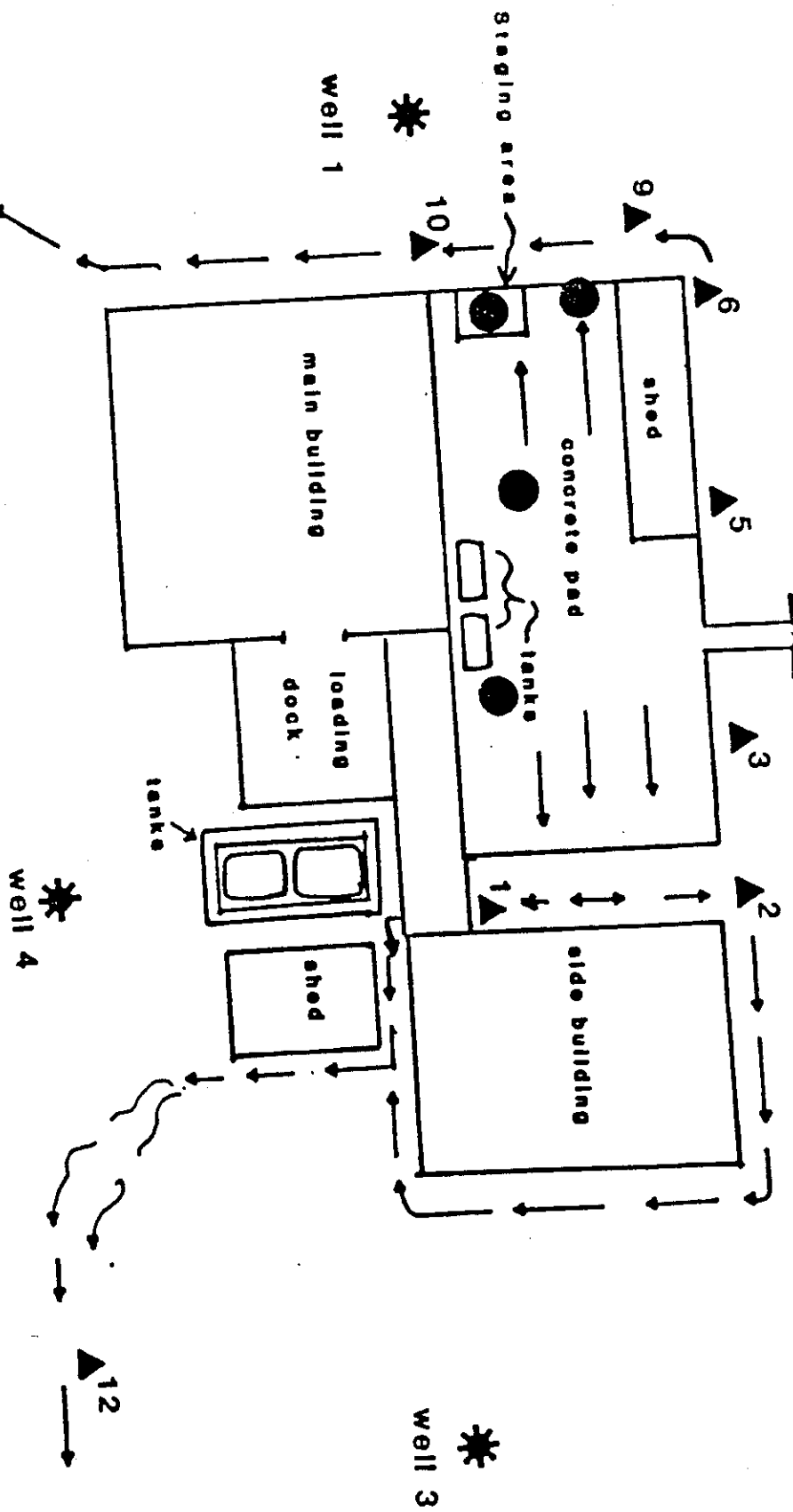
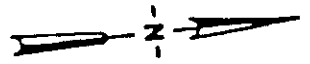
TENTATIVE WELL PLACEMENT*
SOIL AND WIPE SAMPLE SITES

(*Subject to determination of groundwater flow.)



Well 2 ▲13

pit ▲7
▲8



U.S. Route 40

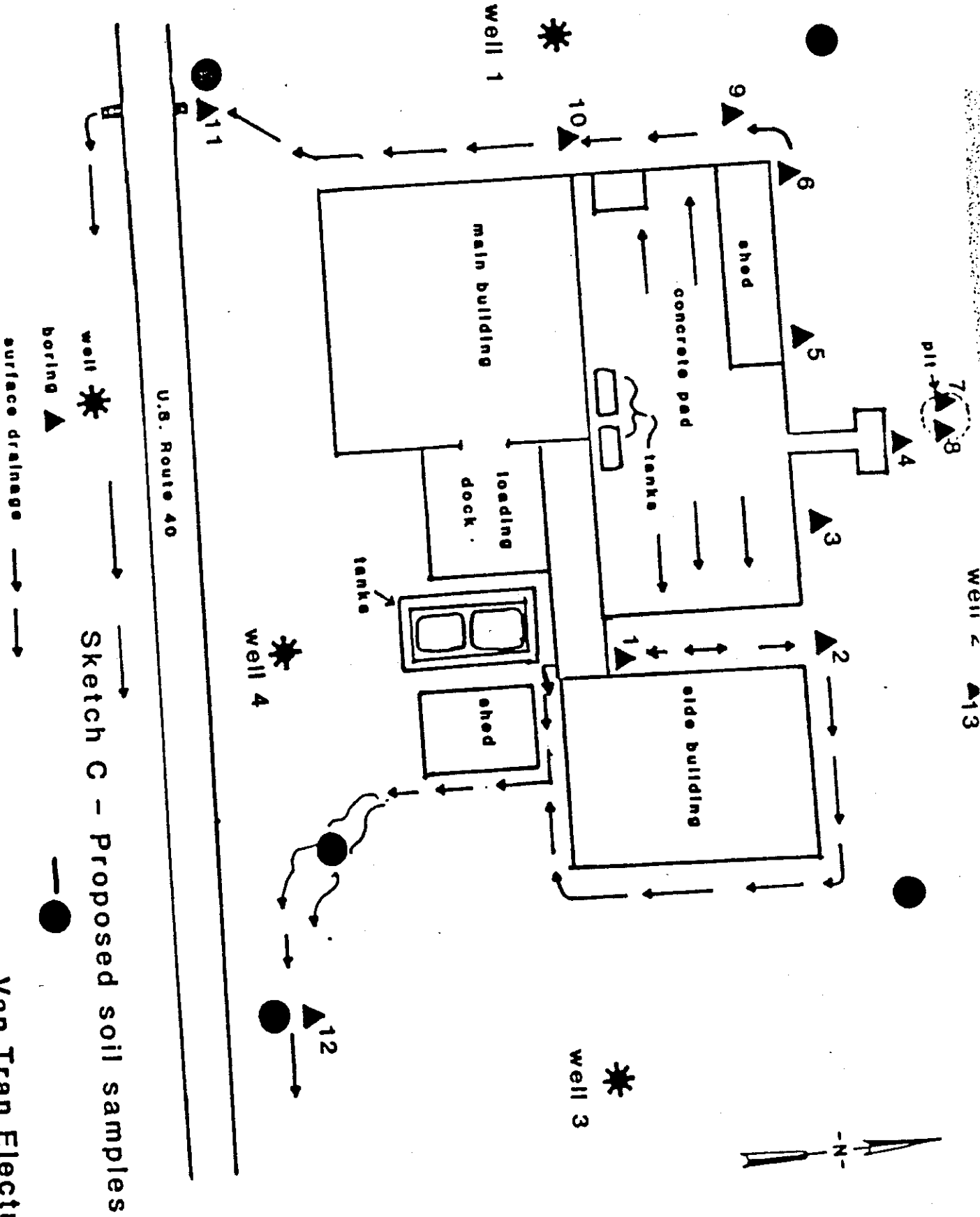
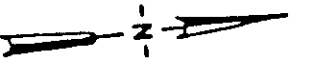
Sketch B - Proposed wipe samples

well *
boring ▲
surface drainage →

Van Tran Electric



Well 1 ▲13



not to scale

Van Tran Electric

APPENDIX C
CONSENT PLAN REGARDING
VANTRAN FACILITY
VANDALIA, ILLINOIS

CONSENT PLAN REGARDING
VAN TRAN FACILITY, VANDALIA, ILLINOIS

This AGREEMENT entered into as a "CONSENT PLAN" between Van Tran Electric Corporation and the Illinois Environmental Protection Agency, on behalf of itself its agencies and assigns and its attorney, Neil F. Hartigan, Attorney General of the State of Illinois, this ____ day of _____, 1987.

WITNESSETH:

WHEREAS, Van Tran Electric Corporation (hereinafter "Van Tran") and the Illinois Environmental Protection Agency (hereinafter "IEPA"), are parties to certain actions pending in the Circuit Court of Fayette County, Illinois, styled "Van Tran Electric Corporation v. Illinois Environmental Protection Agency," No. 85-CH-48, and "People of the State of Illinois and Illinois Environmental Protection Agency v. Van Tran Electric Corporation," No. 86-CH-3; and

WHEREAS, the Court on April 8, 1986 issued in said actions an Order requiring the parties to meet, and if possible, to prepare and submit to the Court a proposed plan for a testing program to be conducted upon Van Tran's property at Vandalia, Illinois showing areas of agreement of the parties as to such plan and areas of disagreement; and

WHEREAS, the parties have met from time to time pursuant to the Court's order and through their authorized representatives have reached certain agreements as set forth hereafter.

NOW THEREFORE, in consideration of the mutual promises of the parties as hereinafter set forth it is agreed as follows:

ARTICLE I - GENERAL CONDITIONS

A. PRESERVATION OF RIGHTS:

(1) It is understood and agreed by IEPA that all agreements, conditions, provisions and commitments of Van Tran hereunder are made solely for the purpose of settling and compromising claims by IEPA regarding its rights under governing statutes and regulations, which claims are disputed by Van Tran, and nothing herein contained shall be construed to constitute an admission by Van Tran bearing upon any facts, theories, or legal positions whatsoever, and specifically, shall not be deemed to constitute admissions that IEPA is authorized to enter Van Tran's property or that Van Tran has violated any law or regulation whatsoever, or that IEPA is entitled to recover any costs, expenses or expenditures related or unrelated to the activities hereinafter mentioned, under federal or Illinois "superfund" statutes, or otherwise, or that activities hereinafter set forth or related activities, whether performed by Van Tran, IEPA or any other parties, are necessary, reasonable, proper, or in any fashion required to be undertaken by any party.

(2) Each party expressly reserves all defenses, objections, claims, causes of action and issues, in law or in equity, which it has or may have to the claims which have been asserted or may be by the other in the above described actions. Van Tran further reserves any claims, defenses, objections, causes of action or issues in any action, claim or cause of action, in law or in equity, which may hereinafter be asserted by IEPA, or by any other person or party, public or private, relating to Van Tran's property at Vandalia, Illinois, including but not limited to any action pursuant to federal

or Illinois "superfund" statutes to collect or recover alleged response or other costs and IEPA reserves its right to pursue same. Van Tran specifically denies that any expenses, charges, outlays or other expenditures incurred by IEPA, directly or indirectly, in performing, implementing or overseeing the activities hereinafter set forth are either reasonable, necessary or are authorized by, required by or consistent with the National Contingency Plan, and specifically denies that any such expenses shall be recoverable from Van Tran in any action at law or equity.

(3) It is understood and agreed by Van Tran that all agreements, conditions, provisions and commitments of IEPA hereunder are made solely for the purpose of settling and compromising claims by Van Tran regarding its rights under governing statutes and regulations, which claims are disputed by IEPA, and nothing herein contained shall be construed to constitute admissions by IEPA bearing upon any facts, theories or legal positions whatsoever, and shall not be deemed to waive any rights asserted by IEPA, to enter Van Tran's property, to propose, implement or require additional activities on or related to the Van Tran property, or to assert any claim, under statutes, regulations or otherwise, in law or in equity, for recovery of its costs, expenses or expenditures relative to such property.

(4) The parties hereto agree that nothing herein contained shall be deemed to dispose, finally, of any of the ultimate issues of any the litigations referenced hereinabove, and that nothing herein suggests, states or is intended to imply that this document disposes of the issues placed before the court by the initial pleadings in said actions.

(5) Neither the length of time required for completion of this plan, the length of time required for the parties to engage in multiple meetings or length of time agreed to for the completion of the matters set forth in this CONSENT PLAN shall constitute an admission, agreement or stipulation of any party that the timing of performance of any matter sought by them in any pleading or prayer herein, is or is not critical, vital and of the essence.

(6) Nothing herein shall be construed to mean that either party agrees, admits or stipulates that it possesses an adequate remedy at law in the matters at issue between the parties hereto.

(7) Nothing herein shall be construed to prohibit either party from seeking relief against the other party by warrant, writ or other emergency process where authorized and provided by law.

(8) All actions required to be taken pursuant to this Consent Plan shall be undertaken in accordance with the requirements of all applicable local, state and federal laws and regulations.

B. ACCESS TO PREMISES:

(1) Whenever by these presents, IEPA, or its designee, is specifically authorized to enter the premises of Van Tran for any purpose, such authority shall constitute a bare license only, and nothing herein contained shall be deemed to constitute or authorize the conveyance of any property interest or leasehold, legal or equitable, in or to the said property to persons whose entry is authorized hereby. Any license granted hereunder, or pursuant to the terms hereof, shall be exercised in strict accordance with the terms of this agreement or any additional written authorization, shall be exercised only during regular business hours exclusive of

weekends and holidays, except for other reasonable times in addition to regular business hours as may be hereafter authorized in writing by Van Tran and by Baker, and all activities carried out upon the premises shall be limited to those reasonably necessary to conduct the activities herein authorized. No photographs shall be taken, and no interviews of Van Tran employees shall be conducted on the premises without express written authorization signed by Van Tran's Plant Manager.

(2) The agreement of the parties in this CONSENT PLAN generally and in paragraph (1) above, constitutes no agreement whatever between the parties hereto as to the authority of IEPA to enter upon the premises of Van Tran for any purpose other than the carrying out of the undertakings set forth herein. The parties recognize that they continue in disagreement on that issue and each reserves its right to pursue respective petitions, writs, claims, theories, defenses and actions as they deem appropriate for purposes outside the scope of this CONSENT PLAN.

(3) The right of entry granted hereunder shall be limited to current employees of IEPA and Envirodyne Engineers of St. Louis, Mo., who shall exhibit proper identification upon request of any employee of Van Tran. Any person authorized to enter the premises shall upon entry report to the Plant Manager, or his designee, and shall enter his name, affiliation, and other information as shall reasonably be required in a log to be maintained for such purpose. All persons gaining entry to the premises hereunder shall comply with all published rules governing conduct of plant employees or visitors.

(4) The number of persons present upon Van Tran's premises by virtue of the license herein granted shall not exceed five (5) in number at any one time, unless a greater number is authorized in writing by Van Tran's Plant Manager. Said number of persons shall exclude any persons, however employed, summoned, brought or invited to the premises by Van Tran or its designee.

C. AGREEMENT NOT SEVERABLE:

It is expressly understood and agreed that the performance by either party of each and every provision and obligation of this Agreement is conditioned upon the due performance of all provisions, conditions and obligations to be performed by the opposite party. In the event that any provision of this Agreement shall be invalidated or shall be or become impossible to perform, then the entire Agreement shall be and become null, void and held for naught.

ARTICLE II - TEST PROCEDURES

A. MAPPING AND SURVEYS:

Van Tran shall, at its sole cost and expenses, cause to be produced a site map, utilizing the methods and parameters and containing the features set forth in Section III A ("Mapping") of the Revised Recommendations Report of Environdyne Engineers, a true copy of which is attached hereto as Exhibit A and incorporated herein by reference, and hereinafter referred to as the "EEI Report," and a preliminary water-level contour map as referred to in Section III B(2) of the EEI Report.

B. GROUNDWATER FLOW DETERMINATION:

Van Tran, through its consultants Baker Engineers of Merrillville, Indiana ("Baker") and such subcontractors or agents

as may be retained by Baker or Van Tran in their sole discretion, shall prepare and submit to IEPA a report specifying its conclusion as to the compass direction of flow of groundwaters underlying Van Tran's property and the depth from the surface of the highest point of such groundwaters. Such conclusion shall be reached upon consideration of the site map referred to above, survey of existing monitoring wells and measurement of water levels in same in accordance with Section III B of the EEI Report, such information as may be obtained by IEPA from the Illinois State Geological Survey and local well drillers and submitted to Van Tran, and such other data or information as may be considered by Van Tran and Baker to be relevant. The report shall specify in detail the grounds for the conclusion reached.

IEPA shall coordinate with the Illinois State Geological Survey and local well drillers to obtain all available information on local stratigraphy and aquifer characteristics, and shall submit to Van Tran, in writing, a report listing all information so obtained which shall be considered by Van Tran in reaching a conclusion as to groundwater flow. All other costs and expenses of preparing and submitting the report on groundwater flow herein contemplated shall be borne by Van Tran.

The report contemplated hereby shall be submitted to IEPA by delivering same to James Janssen, Manager, Immediate Removal Unit, RPMS/DLPC, at 2200 Churchill Road, Springfield, Illinois 62706. Within fifteen (15) days following IEPA's receipt of such report, IEPA shall deliver to Van Tran's counsel and its Plant Manager its written objections to such report, if any, specifying in detail all

grounds for its objection to the conclusion set forth in Van Tran's report. In the event such written objections are not received by Van Tran within the period so specified, Van Tran shall utilize the conclusion set forth in its report for the purposes hereinafter set forth. In the event IEPA objects to Van Tran's report as herein provided, the parties shall endeavor to settle their differences, and if unable to do so shall submit their controversy for determination by the Court, and no other activities contemplated by this agreement shall be conducted after objection is submitted until resolution by the parties or by order of the Court.

IEPA or its designee may enter Van Tran's premises for the purposes of observing the topography of the land surface and/or observing survey of existing wells and determination of water levels within existing wells.

C. WELL PLACEMENT

Based upon the conclusion of the compass direction of flow of groundwaters as determined by Van Tran's report, or by agreement of the parties or order of the Court as hereinabove set out, Van Tran shall designate four (4) monitoring well sites as follows: One site (Site A) shall be placed at or near the point upon Van Tran's property (in the area where groundwater exits the property) at which Van Tran's property line intersects a line parallel to the compass direction of groundwater flow which divides Van Tran's property into two segments of equal size. A second site (Site B) shall be placed at a point ^{175 to} 300 feet from Site A which is the point at such distance along Van Tran's property line nearest to 90° from the line of the compass direction of groundwater flow. A third site (Site C) shall be placed

a point 175 to 300 feet from Site A along Van Tran's property line approximately 180° from Site B. A fourth site (Site D) shall be placed on or near the line of the direction of groundwater flow dividing Van Tran's property in two equal segments, at a point not upon Van Tran's property which is not less than 50 feet from Van Tran's property line at the place where groundwater enters the property. Each party shall, thereafter, at its own cost and expense, make all reasonable and lawful efforts to obtain authority or permission of the owner of the property at Site D for the location of a monitoring well at such site. In the event such authority or permission cannot be obtained despite the reasonable efforts of the parties, Site D shall then be located at or near the point where groundwaters enter Van Tran's property along the line of the direction of groundwater flow which divides Van Tran's property in two equal segments.

D. WELL INSTALLATION:

Van Tran shall, at its sole cost and expense, install monitoring wells at Sites A, B, C, and D in accordance with the requirements and parameters set forth in Section III B(2)(b) ("Well Installation") of the EEI Report.

IEPA or its designee may enter Van Tran's property for the purposes of observing well placement in conformity with subsection C of this Article, boring of monitoring wells, sampling, sample preservation and packaging, collection and transport of samples, and well construction.

E. WELL SCREENING:

Van Tran shall determine well screening depths, intervals and lengths in the monitoring wells at Sites A, B, C and D based upon information obtained as a result of the activities set forth in Sections A, B, C and D of this Article, subject to the consent of IEPA or its designee which consent shall not unreasonably be withheld.

IEPA or its designee may enter Van Tran's property for the purposes of consultations regarding the determining of well screening depths, intervals and lengths, and observing the placement of such screening in accordance with the determination mode hereunder.

F. WELL DEVELOPMENT:

Van Tran shall, at its sole cost and expense, complete the development of the monitoring wells at Sites A, B, C and D in accordance with the requirements and parameters set forth in Section III B(2)(d) ("Well Development") of the EEI Report.

IEPA or its designee may enter Van tran's property for the purposes of observing well development in conformity with the requirements of the EEI Report and observing maintenance of logs required thereby, screening placement and condition of well water.

G. EQUIPMENT DECONTAMINATION

Van Tran, and its agents and contractors, shall decontaminate equipment utilized in monitoring well boring in accordance with the requirements and parameters set forth in Section III B(2)(e) ("Equipment Decontamination") of the EEI Report.

IEPA or its designee may enter Van Tran's property for the purpose of observing decontamination of equipment as provided hereby.

H. AQUIFER TESTING

Van Tran shall, at its sole cost and expense, perform aquifer testing in accordance with the requirements and parameters set forth in Section III B(2)(f) ("Aquifer testing") of the EEI Report.

IEPA or its designee may enter Van Tran's property for the purpose of observing test data interpretation and water level measurements.

I. PURGING:

Van Tran shall purge monitoring wells in accordance with the requirements and parameters set forth in Section III B(2)(g) ("Purging") of the EEI Report.

J. GROUNDWATER SAMPLE COLLECTION:

Van Tran shall collect a groundwater sample from each monitoring well site in accordance with the requirements and parameters of Section III B(2)(h) ("Groundwater Sample Collection") of the EEI Report. Such samples shall be delivered to IEPA in accordance with the provisions of Article III of this Plan, and IEPA shall submit same to its approved laboratory for analysis in accordance with the EEI Report. The cost of analysis of the groundwater samples herein referred to shall be borne solely by Van Tran.

IEPA or its designee may enter Van Tran's property for the purposes of observing collection of groundwater samples and accepting custody of same.

K. CORE SAMPLES:

Van Tran shall obtain core samples from two cores to be drilled within the solvent pit area, the precise locations of which cores shall be designated by IEPA's designee. All costs of drilling and sample collection shall be borne by Van Tran. Drilling and sample

collection shall be performed in accordance with the requirements and parameters set forth in Section III C ("Core Samples") of the EEI Report.

Van Tran shall preserve and keep such number and character of samples from the cores drilled within the solvent pit area, and from the material removed during drilling of monitoring wells hereunder, as IEPA or its designee may reasonably direct. At the time of transfer of custody of such samples to IEPA or its designee, as provided in Article III of this Agreement, Van Tran shall deliver custody of such core samples as IEPA or its designee may direct in writing, and all other samples collected and preserved hereunder may be retained by Van Tran, or same may be disposed in an environmentally safe and proper manner, at Van Tran's option.

IEPA shall determine which of the samples collected and preserved hereunder shall be analyzed pursuant to Article III of this Plan, and shall use its best efforts to designate for analysis only such minimum number of soil samples which shall appear necessary to achieve the purposes of this Plan; PROVIDED, however, that in any event Van Tran shall be responsible to pay for analysis of no more than forty-six (46) of the soil samples collected pursuant to this Plan.

IEPA or its designee may enter Van Tran's property for the purposes of designating core sample locations, observing the collection and maintenance of core samples, and accepting custody of such samples.


L. WIPE SAMPLES:

Van Tran shall, at its sole cost and expense, collect five (5) composite wipe samples, and analyze same, in accordance with the

requirements and parameters set forth in Section IIID ("Wipe Samples") of the EEI Report.

IEPA or its designee may enter Van Tran's property for the purpose of observing the sampling and preservation of such samples, and of accepting custody of same.

M. SOIL SAMPLES:

Van Tran shall, at its sole cost and expense, collect three composite soil samples, and analyze same, in accordance with the requirements and parameters set forth in Section IIIE ("Soil Samples") of the EEI Report. 

IEPA or its designee may enter Van Tran's property for the purpose of observing the sampling and preservation of such samples, and of accepting custody of same.

N. HEALTH AND SAFETY PLAN:

Baker shall as soon as reasonably practicable prepare a health and safety plan for all employees and contractors engaged in the activities herein set forth. Such plan shall be prepared in accordance with the following: USEPA Order 1440.1 - Respiratory Protection; USEPA Order 1440.3 - Health & Safety Requirements for Employees Engaged in Field Activity; USEPA Occupational Health and Safety Manual; IEPA Interim Standard Operating Safety Guide (September, 1982); OSHA Regulations specified in 29 C.F.R. 1910-1926; USEPA Interim Standard Operating Safety Guide; NIOSH/OSHA/USCG/EPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities; State Safety and Health statutes; other state and USEPA guidance as appropriate. Said plan shall be submitted in writing to James Janssen, Manager, Immediate Removal Unit, RPMSA/DLPC at

2200 Churchill Road, Springfield, IL 62706. Within fifteen (15) days following IEPA's receipt of such plan, IEPA shall deliver to Van Tran's counsel and its Plant Manager its written objections to such plan, if any, and if such written actions are not received by Van Tran within the period so specified, the plan as proposed by Baker will be implemented. The parties shall agree to settle their differences reasonably regarding any objections by IEPA which are timely received.

ARTICLE III - ANALYSIS

A. ANALYTICAL LABORATORY:

All samples to be analyzed pursuant to this Plan shall be submitted by IEPA to EEI, and IEPA shall be solely responsible for insuring that proper and approved analytical techniques, sample preparation and extraction and quality control procedures are utilized by EEI. Nothing herein contained shall be construed to bind Van Tran to acceptance of the accuracy of analytical results reached by EEI.

B. PRESERVATION AND TRANSPORT OF SAMPLES:

Physical custody of all samples to be analyzed hereunder shall be transferred to IEPA or its designee, at the Plant Manager's office at the Van Tran plant, at such times and in such manner as IEPA may reasonably direct. The parties shall execute all documentation regarding such transfer of custody as shall reasonably be required by either party. IEPA shall be solely responsible for the transportation of such samples to EEI, and for the care, custody and preservation of such samples during transport and for documenting chain of custody of same. IEPA will hold harmless Van Tran against

any costs or expenses of ANALYSES resulting to Van Tran in the event samples are lost, contaminated or otherwise rendered useless following transfer of custody of same to IEPA and are analyzed before said contamination or useless state is detected.

C. SAMPLE SPLITTING:

Van Tran may retain a split sample of any soil, water or wipe sample to be analyzed pursuant hereto and the retained portion of such split samples shall remain the property of Van Tran and may be used by it for any purpose.

D. TESTING PARAMETERS:

The samples to be analyzed under this Plan shall be analyzed for the chemical analytes referred to in Section III F ("Chemical Analytes") of the EEI Report.

ARTICLE IV - RI/FS REQUIREMENTS

A. SATISFACTION OF TASK REQUIREMENTS:

In consideration of the mutual agreements herein set forth, the parties stipulate and agree that upon execution of this instrument, subject to the provisions of this Article and to the extent hereafter set forth, they deem to be satisfied the following conditions and requirements set forth in a certain Statement of Work for a Remedial Investigation/Feasibility Study at Van Tran Electric Corp., Vandalia, Illinois, dated July 23, 1985 (hereinafter "RI/FS"):

(1) Task 1, relating to meetings, data gathering, nature and extent of problem, history of response action, site map, surrounding property map and site office, shall be deemed satisfied;

(2) Task 2, subpart B, relating to health and safety plan, shall be deemed satisfied and subpart A, relating to sampling plan shall be deemed satisfied to the extent of field activities conducted by Van Tran or its designee hereunder;

(3) Task 3, subparts B and C(1), relating to geophysical and hydrogeologic investigation (groundwater flow), shall be deemed satisfied;

(4) Task 3, subpart C(2), relating to groundwater study methodology and Task 3, subpart C(3), relating to groundwater monitoring wells, shall be deemed satisfied to the extent that soil borings or wells are completed in accordance with the provisions of this Plan. Nothing herein contained constitutes a waiver of this subpart with respect to borings or wells which may be proposed in the future;

(5) Task 8, relating to Quality Assurance/Quality Control, shall be deemed satisfied as to each sample collected and analyzed pursuant to this Plan;

B. OFF-SITE SAMPLING:

Nothing herein shall be construed to agree that Van Tran is or is not responsible pursuant to Task 3, subpart E, to propose or conduct sampling at any location not on its property (excepting the monitoring well site referred to in Article II, section C of this Agreement). Each party reserves its respective rights of future action as set forth elsewhere herein.

C. REINSTATEMENT OF RI/FS:

In the event Van Tran fails to timely perform any of its obligations to be performed hereunder, unless such failure is substantially caused by Act of God, or caused in whole or in part by any act, fault, negligence, omission or misfeasance of IEPA or the State of Illinois, its agents, consultants, contractors, departments or employees, IEPA may upon written notice to Van Tran immediately reinstitute any portions of the RI/FS deemed satisfied hereby, subject to Van Tran's defenses and legal challenges thereto.

ARTICLE V - MISCELLANEOUS

A. MUTUAL AID AND COOPERATION:

The parties intend that each shall provide to the other all assistance and cooperation which is reasonable and feasible to accomplish the purposes of this agreement. In the event of any dispute as to the interpretation of this plan or the necessity or feasibility of any activities contemplated hereby, the parties shall confer and shall made all reasonable efforts to reach a mutually satisfactory agreement consistent with the purposes and limitations of this Plan.

B. SHARING OF INFORMATION:

Upon its receipt of test results of any samples collected hereunder, each party shall immediately notify the opposite party, in writing, setting forth the results received.

C. PRESS RELATIONS:

The parties acknowledge that their respective counsel are governed by canons of ethics in their states of licensure and the applicable Supreme Court Rules of the State of Illinois. The parties further recognize that there may exist a public and public safety

interest in the subject litigation and, more particularly, the investigation of the subject site. As a consequence thereof, abstaining totally from public commentary by these litigants is not desirable. Conversely, the parties recognize that concern and ill will can result from spontaneous contact with the news media. The parties, therefore, agree that public dissemination concerning the subject litigation and the subject site will be through the form of prepared press releases with a copy timely provided the other party. Further, the parties may agree from time to time upon a two-party presentation to a given medium or journalist. Nothing herein shall be construed to prevent either party from discussing general concepts of pollution control, public safety, public safety fund recovery, law enforcement, pollution engineering or proprietary rights, as desired, without specific reference to the Van Tran site. The parties further recognize that certain Illinois statutes regarding open meetings and Freedom of Information may require dissemination of information about this site to interested citizens upon appropriate request, and IEPA will make best efforts to notify Van Tran of any request for documents pertaining to Van Tran facility including identity of requesting party.

D. TERM:

This Agreement shall remain in effect until July 31, 1987, unless earlier terminated in the manner hereinafter set forth.

E. DEFAULT AND TERMINATION:

In the event that either party fails to perform any provision of this agreement, the opposite party shall notify the defaulting party, in writing, setting forth the acts alleged to constitute a

default, and the defaulting party shall thereafter cure the claimed default within thirty (30) days after receipt of notice. In the event the defaulting party fails to cure the claimed default within such thirty (30) days, the opposite party may, at its election, consider the agreement to remain in effect and petition the Court to require performance of the disputed provision or provisions, subject to such defenses as may be presented to the Court, or such party may by written notice received by the defaulting party declare the Agreement terminated; provided, however, that no termination declared by a party hereto shall become final unless and until ordered by the Court.

F. REMOVAL OF SOLVENT PIT MATERIALS:

IEPA recognizes that Van Tran is attempting to obtain necessary governmental approvals for the immediate removal of materials confined in and below the solvent pit area in its property, and desires to take action to remove same as soon as possible. Upon receipt of test results upon the core samples within the pit area as described herein, IEPA shall recommend to Van Tran in writing an initial remedial measure to remove such materials, taking into account the closure and post-closure requirements of 35 Ill. Adm. Code, Part 725, Subpart G, unless such test results show that removal cannot be safely undertaken. Nothing herein shall be taken to prescribe, limit or specify the nature, extent or precise content of said recommendation if any is made.

IN WITNESS WHEREOF, the parties have executed the foregoing instrument, by their authorized representatives, the day and year first above written.

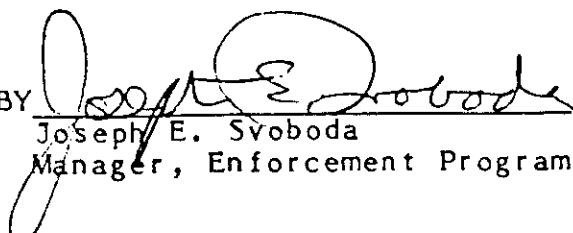
VAN TRAN ELECTRIC CORPORATION

BY

Steve Parke
Vice President

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

BY



Joseph E. Svoboda
Manager, Enforcement Programs

APPENDIX D

VANTRAN GEOLOGY

PREPARED BY: ENVIRODYNE ENGINEERS, INC.

PREPARED FOR: ILLINOIS EPA

VAN TRAN GEOLOGY

PREPARED FOR:

ILLINOIS E.P.A
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

PREPARED BY:

ENVIRODYNE ENGINEERS, INC.
12161 LACKLAND ROAD
ST. LOUIS, MISSOURI 63146

3059-30000

APRIL 17, 1987

VAN TRAN GEOLOGY

REGIONAL GEOLOGY

The site, Van Tran, Inc., is located in south central Illinois near Vandalia in Fayette County. Specifically, the site is near the intersection of Illinois Rte. 185 and U.S. Highway 40.

In this area, there are two distinct physiographic regimes: uplands and the Kaskaskia River Valley. The site is located on an upland area, within about 3/4 mile of the low bluffs at the edge of the Kaskaskia River Valley (see Figure 1). The river valley trends roughly north-south, and is about 2 to 2 1/2 miles wide in this region. The valley bottom is very flat, with ground surface elevations ranging from 465 to 478 feet msl. The upland areas have a more varied topography, with some hilltops in the area over 600 ft. The river currently flows along the western side of the valley, and flows in a southerly direction. In addition to several minor tributary streams, the river is fed by several agricultural drains within the valley. Approximately 10 river miles south of the site, the river forms Carlyle Lake.

The Kaskaskia River Valley is underlain by a variety of unconsolidated deposits. The surficial material consists of Peoria and Roxana Loess. This is underlain by lacustrine deposits. The lacustrine deposits consist mostly of silt and clay, but locally contain narrow traces of sand and gravel. Beneath the lacustrine deposits there is a Wisconsinan age valley train deposit. The valley train deposits consist mostly of fine to coarse grained sands. Little information was obtained concerning the geology underlying the valley train deposits, except that at some depth, the valley is underlain by Pennsylvanian age bedrock. Estimates from ISGS indicate the depth to bedrock in the general area to be greater than 100 feet.

The Van Tran site is located on the uplands. The upland geology is dominated by Illinoian drift. This drift consists of a till plain overlain by the Hagarstown Beds. The till consists of the Vandalian Till (a sandy, silty clay) underlain by the Mulberry silt (which includes some sand and gravel), underlain by the Smithboro Till (a silty clay).

The Hagarstown Beds consist of a drift plain interrupted by kames and elongated ridges. In the plains between ridges, the beds consist of a gravelly till, which grades into a poorly sorted gravel near the ridges. Well sorted gravel occurs along the linear trend of the ridges. The ridges themselves consist of interbedded sand and gravel. The origin of the Hagarstown Beds is not certain. The variability and relatively poor compaction between ridges suggests an ablation origin. The ridges appear to be either ice marginal or ice contact (e.g. crevasse fill) features. The Hagarstown Beds are considered middle Illinoian in age.

The Vandalia Till underlies the Hagarstown Beds in the vicinity of the Van Tran site. It is a relatively sandy, compact till. It is generally grey in color, but is often oxidized due to weathering. It contains numerous thin beds of silt, sand and gravel with a fairly high distribution of pebbles and cobbles. The average grain size distribution is 43% sand, 38% silt, and 19% clay. At the type location the Vandalia Till was found to be about 13 feet thick and overlain by 11 feet of the Hagarstown Beds, and capped by 5 feet of Roxana silt and 4 feet of Peoria Loess.

Below the Vandalia Till, the Mulberry Grove Silt forms an occasional and local boundary to the underlying Smithboro Till. The Mulberry Grove Silt consists mostly of silt with occasional lenses of sands and gravel. This layer is generally fairly thin, as it is believed to be an undeveloped deposit between the advances of the glacial stages which deposited the Smithboro and Vandalia Till.

In the vicinity of the site, the Smithboro Till underlies either the Vandalia Till or the Mulberry Grove Silt, if the Mulberry Grove Silt is present. The Smithboro Till is grey, compact and softer, more silty and less friable than the Vandalia Till. The Smithboro Till is more clayey (26% clay, 49% silt and 25% sand) than the Vandalia and the unweathered clays are more expandable. At the type location for the Vandalia Till, the Smithboro Till was approximately 10 feet thick.

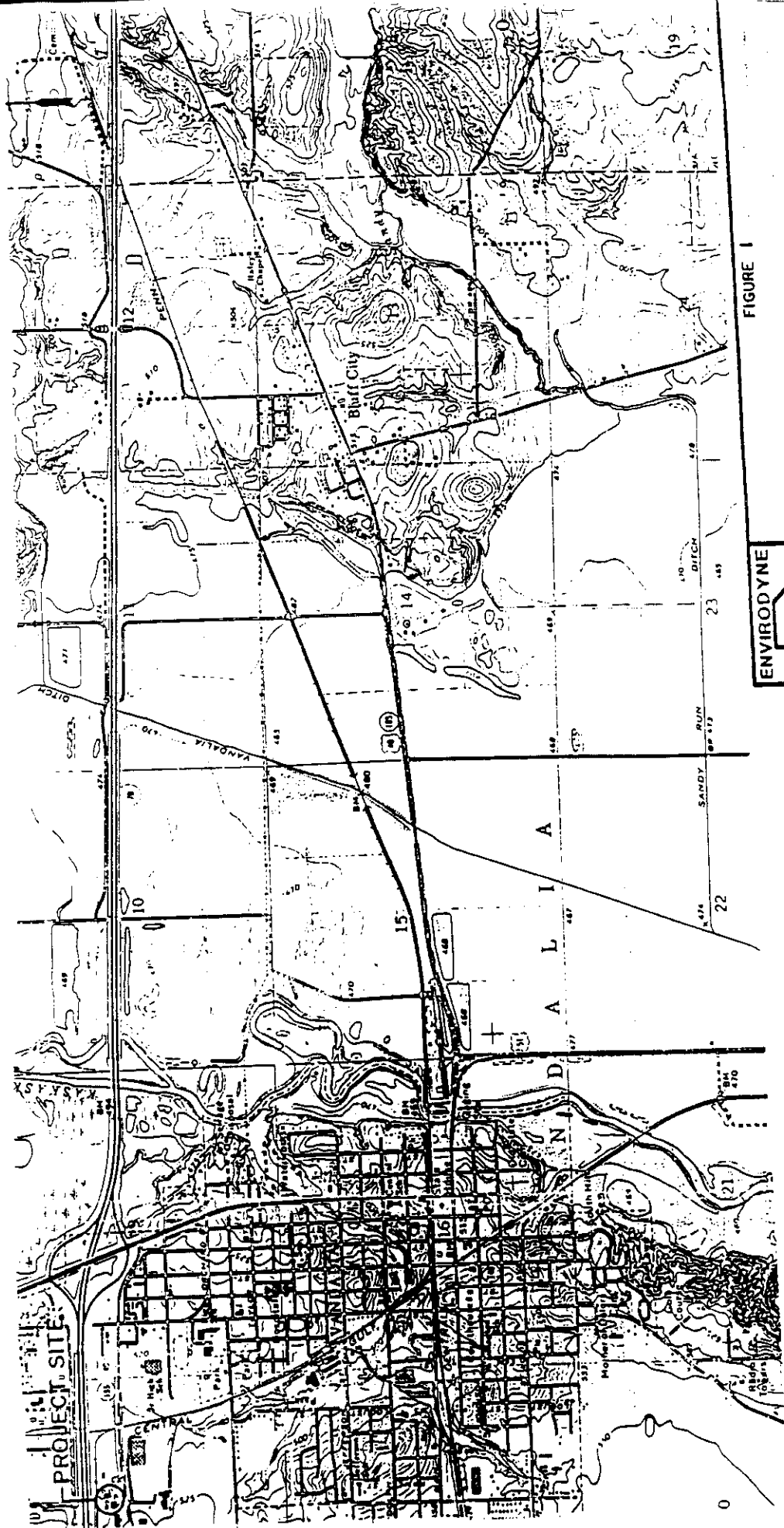
Locally, the Smithboro Till may be underlain by Kansan age till. The Kansan till, where present, is dark grey, compact and slightly sandy. It may have a Yarmouthian Stage soil horizon developed below the overlying Smithboro Till. The sand content of the Kansan till (33% sand, 42% silt, and 25% clay) is intermediate between the overlying Smithboro and Vandalia Till. The Kansan till also has a lower percentage of expandable clay minerals than the overlying Smithboro Till. At the type location for the Vandalia Till, the Kansan till was approximately 8 feet thick (1).

The Illinois State geological Survey (ISGS) estimates that the total thickness of Pleistocene deposits in the vicinity of the site is 50 to 100 feet (2). Pennsylvania age bedrock underlies the Pleistocene deposits. A buried bedrock valley is postulated to exist beneath the present Kaskaskia River Valley, and to have approximately the same orientation.

The uppermost bedrock unit beneath the site is expected to be the Bond Formation (3). The Bond Formation is characterized by a high percentage of limestones, and calcareous clays and shales. Other units within this formation include grey shale, siltstones, and a sandstone. In this part of Fayette County, the Bond Formation is estimated to be 250 feet thick.

SITE SPECIFIC GEOLOGY

The Van Tran site is located approximately 4,000 feet west of the Kaskaskia River, on gently rolling to level terrain. Ground surface at the site ranges from 523 to 531 feet msl. It is assumed that the stratigraphy at the site is consistent with the general stratigraphy in the region, as stated in the preceding section.



ENVIRODYNE



FIGURE 1

Topography-Vandalia, Ill. Quadrangle

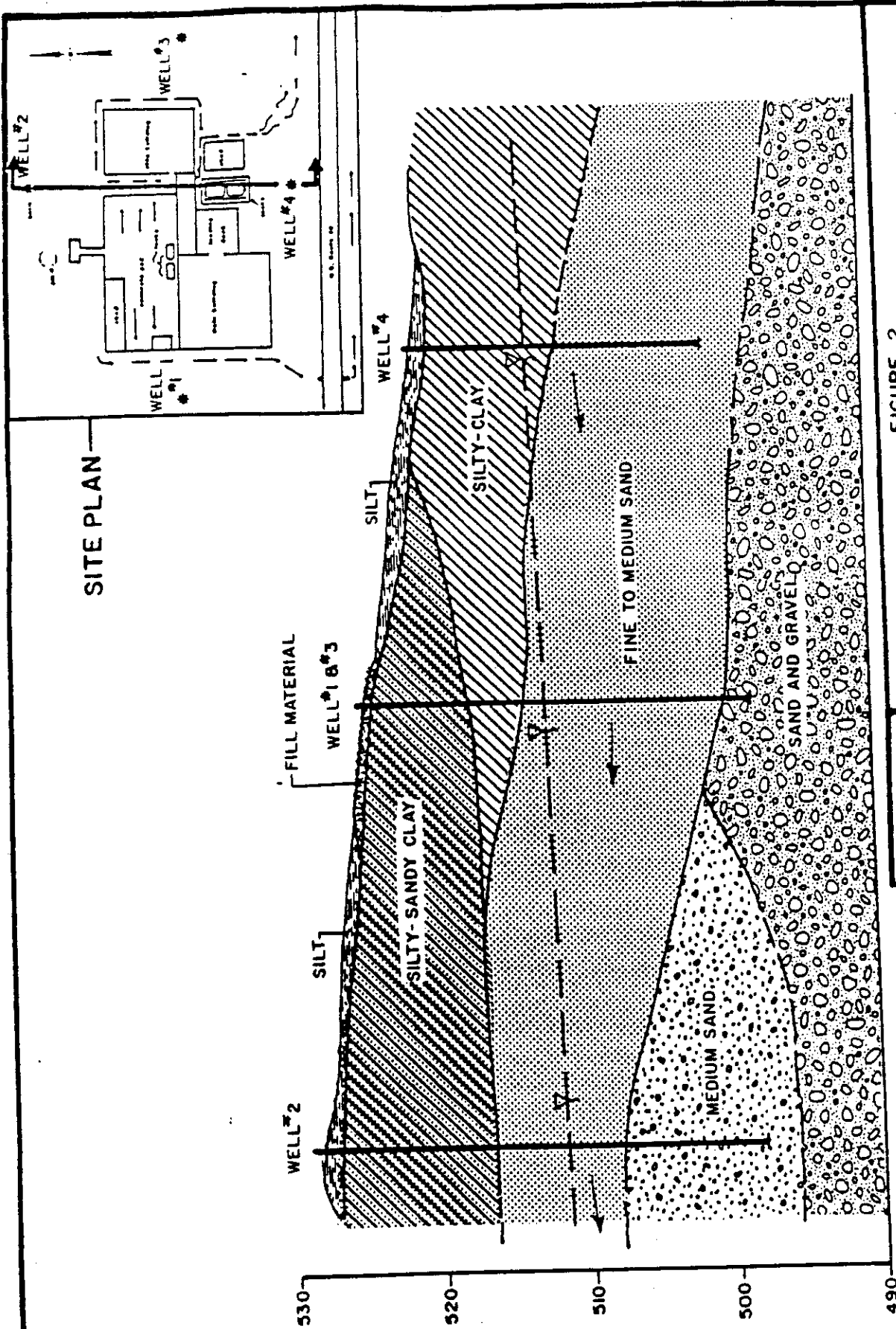


FIGURE 2

Cross-Section

Through Van Tran Property Vandalla, IL

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VAN TRAN SITE

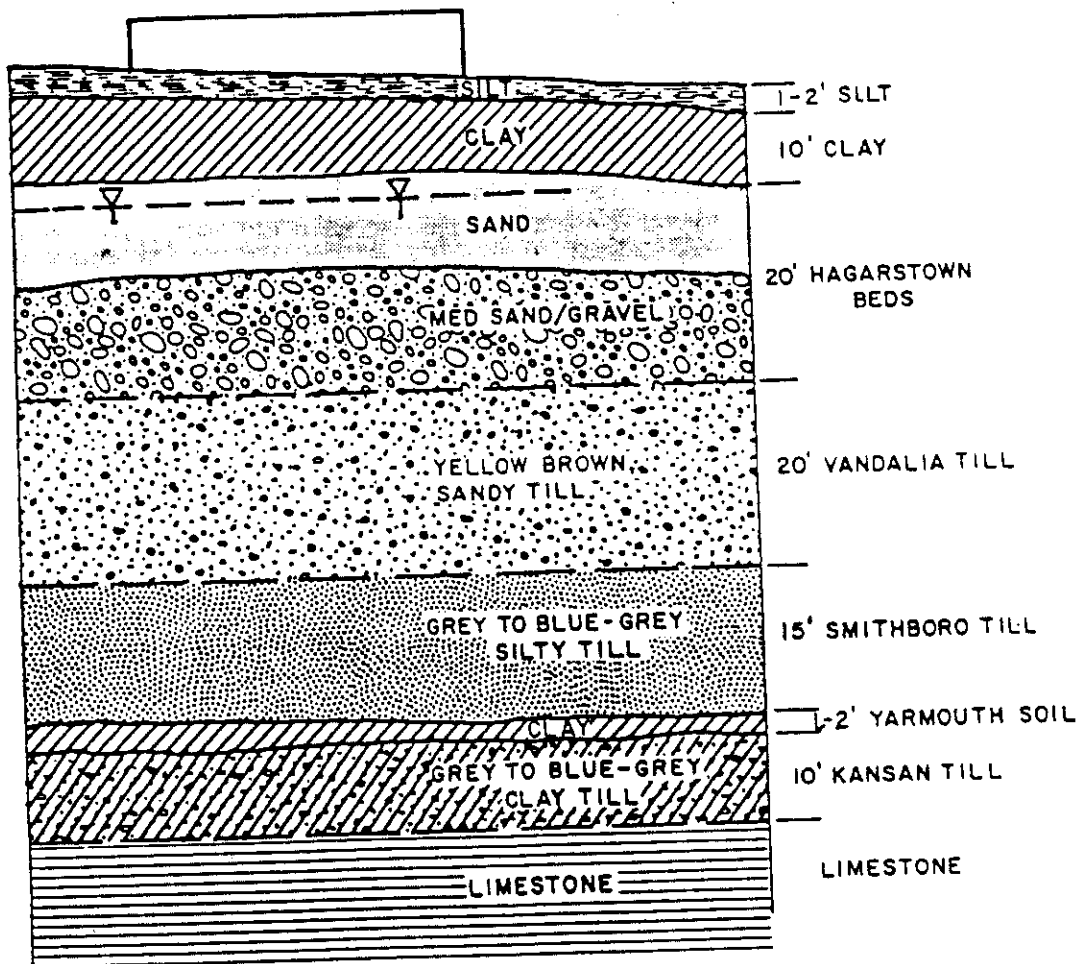


FIGURE 3

Generalized Geologic Stratigraphy

ENVIRODYNE



ENGINEERS

REFERENCES

1. ISGS, 1969. "Circular 442-Glacial Geology of Vandalia, Illinois Region", Urbana, IL
2. Reed, Phillip. ISGS. April 1, 1987. Personal Communication, Urbana, IL
3. ISGS, 1975. "Bulletin 95 - Handbook of Illinois Stratigraphy", Urbana, IL
4. ISGS, 1984. "Circular 532 - Potential for Contamination of Shallow Aquifers in Illinois", Urbana,

APPENDIX E
BORING LOGS AND MONITORING WELL CONSTRUCTION DETAILS

Project VanTran Electric CorporationBoring No. SB-A Ground Elev. 526.02S.O. No. 15407-04-SRIDate Started 4/27/87 Date Completed 4/27/87Remarks Stickup = NA ft.Michael Baker, Jr., Inc.
Test Boring RecordSHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
521.02	5	2045	11	Clay, light brown	No monitoring well installed.	
		2046	16			
		2047	16			
		2048	13	Sandy clay, reddish brown		
		2049	14			
516.02	10		9			Took duplicate sample #2048A.
		2050	13	Sand, reddish brown, some clay present.		
		2051	10			
		2052	5			
		2053	8			
	15			Bottom of hole @ 12'		Borehole closed with bentonite/ cement grout.
	20					
	25					
	30					
	35					
	40					

Project VanTran Electric CorporationBoring No. SB-B Ground Elev. 526.16S.O. No. 15407-04-SRIDate Started 4/27/87 Date Completed 4/27/87Remarks Stickup = NA ft.

Michael Baker, Jr., Inc.

Test Boring Record

Baker
EngineersSHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail		Notes			
521.16	5	2036	11	Clay, light brown	No well installed.		Split sample #2086 with IEPA			
		2037	17					Split sample #2038 with IEPA		
		2038	18							
			11	Sandy clay, reddish brown			Took duplicate sample #2040A.			
		2039	13							
2040	15									
2041	10									
519.16	10	2042	8	Sand, reddish brown					Borehole closed with bentonite/ cement grout.	
		2043	7							
		2044	8							
		Bottom of hole @ 12'								
	15									
	20									
	25									
	30									
	35									
	40									

DRILLING CO. PSIGEOLOGIST/
ENGINEER

D. Bradfield

Project VanTran Elect CorporationBoring No. SB-C Ground Elev. _____S.O. No. 15407-04-SRIDate Started 4/23/87 Date Completed 4/23/87Remarks Stickup = NA ft.Michael Baker, Jr., Inc.
Test Boring RecordSHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample & Type	SPT Blows	Description	Well Installation Detail	Notes
		2018	6	Silt, brownish gray some clay present	No well installed	All samples relinquished to IEPA representative.
		2019	5			
		2020	8			
		2021	11			
	5	2022	5			
		2023	17	Sand, light brown		
		2024	12			
				Bottom of hole @ 70'		
	10					
	15					
	20					
	25					
	30					
	35					
	40					

Borehole closed
with bentonite/
cement grout.DRILLING CO. PSIGEOLOGIST/
ENGINEERD. Bradfield

Project VanTran Elec c CorporationBoring No. SB-D Ground Elev. S.O. No. 15407-04-SRIDate Started 4/23/87 Date Completed 4/23/87Remarks Stickup = NA ft.Michael Baker, Jr., Inc.
Test Boring RecordBaker
EngineersSHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample # & Type	SPT Blows	Description	Well Installation Detail	Notes
		2025	18	Clay, light brown	No well installed	Borehole closed with bentonite/ cement grout.
		2026	12			
		2027	9			
		2028	8			
	5	2029	11			
		2030	11	Silt, gray and brown mottled		
		2031	22			
				Bottom of hole @ 7'		
	10					
	15					
	20					
25						
30						
35						
40						

DRILLING CO. PSIGEOLOGIST/
ENGINEER

D. Bradfield

Project VanTran Electric Corporation
 Boring No. MW-A Ground Elev. 526.25
 S.O. No. 15407-04-SRI
 Date Started 4/21/87 Date Completed 4/21/87
 Remarks Stickup = 3.78 ft.

Michael Baker, Jr., Inc. Test Boring Record



SHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
521.25	5	2004	7	Clay, light brown	Bentonite/cement grout	Split sample with IEPA representative.
			13			
		2005	11		Bentonite pellets	2" stainless steel casing
			25	Sand, reddish brown		
516.25	10	2006	22		Ottawa silica sand packing	
			28			
			27			
			5			
511.25	15	2007	6		Caving of natural sand below 14'	Water table @ 14'
			4			
			13	Brown below water table		
			31			
506.25	20	2008	26		Bottom of screen @ 22.1'	.010' screen
	25			Bottom of hole @ 22.5'		
	30					
	35			Level C precautions during drilling	4" steel cover with locking cap	
	40					

Project VanTran Electr Corporation
 Boring No. MW-B Ground Elev. 526.70
 O. No. 15407-04-SRI
 Date Started 4/23/87 Date Completed 4/23/87
 Remarks Stickup = 2.24ft.

Michael Baker, Jr., Inc. Test Boring Record



SHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
521.70	5	2014	14	Clay, brownish gray some silt present	Bentonite/ cement grout	All samples relinquished to IEPA representative
			18			
			17			
516.70	10	2015	18	Sand, brown with some red and yellow	Bentonite pellets	2" stainless steel casing
			12			
			8			
511.70	15	2016	7		Ottawa silica sand packing	Water table @ 14'
			10			
			6			
		2017	3		Bottom of screen @ 17.5'	.010 screen
	20			Bottom of hole @ 18'		
	25				4" steel cover with locking cap	
	30					
	35					
	40					

GEOLOGIST/
ENGINEER

D. Bradfield

Project VanTran Electric Corporation
 Boring No. MW-C Ground Elev. 524.75
 No. 15407-04-SRI
 Date Started 4/22/87 Date Completed 4/22/87
 Remarks Stickup = 2.97 ft.

Michael Baker, Jr., Inc. Test Boring Record



SHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample & Type	SPT Blows	Description	Well Installation Detail	Notes
519.75	5	2009	13	Clay, light brown some silt present	Bentonite/ cement grout	2" stainless steel casing
			9			
			11			
			18			
514.75	10	2010	13	Sand, light reddish brown	Bentonite pellets	Water table @ 11'
			51			
			10			
			10			
509.75	15	2012	15	Bottom of walk @ 55'	Ottawa silica sand packing	Took duplicate sample #2013 .010 screen
	20			Level C precautions during drilling	4" steel protective cover with locking cap	
	25					
	30					
	35					
	40			Level D precautions during well installation		

Project VanTran Electric CorporationBoring No. MW-D Ground Elev. S.O. No. 15407-04-SRIDate Started 4/24/87 Date Completed 4/24/87Remarks Stickup = NA ft.Michael Baker, Jr., Inc.
Test Boring RecordBaker
EngineersSHEET 1 OF 3

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
	5	2032	10	Silt, light gray to brown	No well installed	Water table @ 9'
			8			
			6			
		2033	12			
			15			
			9			
	10	2034				
			7	Sand, brown, medium grained		
		2035	9			
	15					
	20		50+			Monitor well was installed in Boring MW-D-1
	25		2			
	30		26			
	35		50'	Clay, dark gray		
	40					

DRILLING CO. PSIGEOLOGIST/
ENGINEER

D. Bradfield

Project VanTran Electric Corporation
 Boring No. MW-D Ground Elev. _____
 S.O. No. 15407-04-SRI
 Date Started 4/24/87 Date Completed 4/28/87
 Remarks Stickup = NA ft.

Michael Baker, Jr., Inc. Test Boring Record

**Baker
Engineers**

SHEET 2 OF 3

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
			50+	Sand, light gray	No well installed	
	45+					
			50+			
				Clay, light gray interbedded, sand lenses		
	50					
			50+			
	55					
			50+			
	60					
			50+			
	65					
			50+			
	70					
			50+			
	75			Sand, light gray		
			50+			
	80					

GEOLOGIST/
ENGINEER

D. Bradfield

Project VanTran Electr CorporationBoring No. MW-D Ground Elev. S.O. No. 15407-04-SRIDate Started 4/24/87 Date Completed 4/28/87Remarks Stickup = NA ft.

Michael Baker, Jr., Inc.

Test Boring Record

Baker
EngineersSHEET 3 OF 3

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
			24	Sand, light gray	No well installed	
	85			Clay with sand, light gray		
			27			
	90		50+			
				Probable limestone bedrock		
	95		50+			
				Bottom of hole @ 955'		
						Boring closed with bentonite/ cement grout
	100					
	105					
	110			Level D precautions during drilling		
	115					
	120					

DRILLING CO. PSIGEOLOGIST/
ENGINEERD. Bradfield

Project VanTran Electr CorporationBoring No. MW-D-1 Ground Elev. 520.27S.O. No. 15407-04-SRIDate Started 4/25/87 Date Completed 4/25/87Remarks Stickup = 2.75 ft.Michael Baker, Jr., Inc.
Test Boring RecordSHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
515.27	5			Blank drilled. See boring log for MW-D.	Bentonite/ cement grout	2" stainless steel casing
510.27	10				Bentonite pellets	
					Ottawa silica sand packing	Water table @ 9'
505.27	15				Caving of natural sand below 9.5'	.010 screen
	20			Bottom of hole @ 150'		
	25				4" steel cover with locking cap	
	30			Level D precautions during drilling and well installation		
	35					
	40					

DRILLING CO. PSIGEOLOGIST/
ENGINEER

D. Bradfield

Project VanIran Electric Company
 Boring No. P-1 Ground Elev. _____
 S.O. No. 15099-04-SRZ
 Date Started 10/15/85 Date Completed 10/15/85
 Remarks Stickup = 2.50 ft.

Michael Baker, Jr., Inc. Test Boring Record



SHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
				SILT - brown, dry	Cement Grout	
	5		5/6/8	CLAY - silty to fine sandy, gray, moist	Protective steel cover	
	10		5/7/9		Bentonite Seal	
	15		4/6/7	SAND - fine, med., brown moist to wet, dense	Silica sand and caved materials	Water level 15.25 feet below ground surface 10/15/85
	20		7/9/8	SAND - medium grained, brown, wet, medium dense		
	25		8/10/22		19.6 2 inch diameter Sch. 40 PVC Screen .010 in. 24.6	PVC Screen Bottom
	30			E.O.B. @ 25.0 feet Drilled using 3 1/4" I.D. hollow stem augers		
	35					
	40					

DRILLING CO. _____

GEOLOGIST/
ENGINEER _____

Baker Engineers

GEOLOGIST/
ENGINEER

Project VanTran Electric CompanyBoring No. P-3 Sound Elev. S.O. No. 15099-04-SR2Date Started 10/15/85 Date Completed 10/15/85Remarks Stickup = 3.30 ft.Micha' Baker, Jr., Inc.
Test Boring RecordSHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
				3" Gravel Parking Lot	Cement Grout	
				CLAY - Silty, brown, moist, dense	Protective steel cover	
	5		2/5/7		Bentonite seal	
				CLAY - Silty, gray, moist, dense		
	10		2/3/3			
				SAND - fine, brown, dense, moderate plasticity, wet	Silica sand and caved materials	
	15		2/3/4			
						Water level 15.02 feet below ground surface 10/15/85
	20		2/3/3		19.5	
					2 inch diameter Sch. 40 PVC Screen .010 in.	
	25		24/25	SAND with GRAVEL	24.5	PVC Screen bottom
	30					
	35					
	40					

DRILLING CO. GEOLOGIST/
ENGINEER

Project _____
 Boring No. P-4 Ground Elev. _____
 S.O. No. 15099-04-SRZ
 Date Started 10/16/85 Date Completed 10/16/85
 Works Stickup = 3.10 ft.

Michael Baker, Jr., Inc. Test Boring Record



SHEET 1 OF 1

Elevation (ft.)	Depth (ft.)	Sample Type	SPT Blows	Description	Well Installation Detail	Notes
				SILT - brown, organic	Protective steel cover	
	5		3/5/7	CLAY - gray, moist, dense	Cement Grout	
					Bentonite Seal	
	10		2/3/5		Silica sand and caved materials	Water level 11.43 feet below ground surface 10/16/85
	15		2/4/6	SAND - brown, wet, fine, dense	14.8	
					2 inch diameter Sch. 40 PVC Screen .010 in.	
	20		5/9/20		19.8	PVC Screen Bottom
	25			E.O.B. @ 20.0 feet Drilled using 3 1/4" I.D. hollow stem augers		
	30					
	35					
	40					

DRILLING CO. _____

GEOLOGIST/
ENGINEER _____

APPENDIX F
TABULATED ANALYTICAL RESULTS
PRELIMINARY CONTAMINANT ASSESSMENT
VANTRAN ELECTRIC CORPORATION
VANDALIA, ILLINOIS

TABLE F-1
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
SURFACE SOILS SAMPLING/ANALYTICAL RESULTS

SAMPLE I.D. LOCATION	2000* S OF LOADING DOCK	2001 W OF COOLING RACK	2002 NE OF PROD. BUILDING
<u>PARAMETERS</u> mg/kg			
Aluminum, Total	1300	8010	6590
Antimony, Total	<1.99	<2.00	<2.00
Arsenic, Total	1.35	6.65	4.53
Barium, Total	178	201	72.2
Beryllium, Total	0.129	0.349	0.289
Cadmium, Total	1.22	2.34	1.09
Calcium, Total	264000	4200	13700
Chromium, Total	6.03	19.6	11.4
Cobalt, Total	<1.99	5.09	3.69
Copper, Total	8.78	28.8	23.8
Iron, Total	7270	16200	12300
Lead, Total	44	72	29
Magnesium, Total	7330	2030	3030
Manganese, Total	640	695	277
Mercury, Total	<0.05	<0.05	<0.05
Nickel, Total	4.71	28.8	6.80
Potassium, Total	620	830	310
PCBs, Total	11	62	3
Aroclor 1016	<1	<1	<1
Aroclor 1221	<1	<1	<1
Aroclor 1242	<1	<1	<1
Aroclor 1248	1	48	<1
Aroclor 1254	<1	<1	<1
Aroclor 1260	10	14	3
Selenium, Total	<1.00	<0.998	<0.998
Silver, Total	<2.99	<2.99	<2.99
Sodium, Total	112	58.9	50.9
Solids, Total	96.3%	83.4%	83.6%
Thallium, Total	<1.00	<0.98	<0.98
Vanadium, Total	6.08	26.2	22.2
Zinc, Total	35.8	242	35.1

*Split sample with IEPA representative.

TABLE F-2
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-A (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2045 0-1	2046 1-2	2047 2-5	2048D 2-5	2049* 5-8	2050 8-9	2051 9-10	2052 10-11	2053 11-12
PARAMETER mg/kg★									
Aluminum, Total	7340	5930	4600	4120	9670	6630	1070	924	783
Antimony, Total	<1.76(1)	<1.95(1)	<1.93(1)	<1.91(1)	<1.81(1)	<1.89(1)	<1.97(1)	<1.95(1)	<1.99(1)
Arsenic, Total	7.83	1.86(1)	2.86(1)	2.00(1)	7.29(1)	3.21(1)	1.29(1)	1.07(1)	1.23(1)
Barium, Total	74.6	61.4	83.1	79.8	56.8	31.7	15.3	12.6	15.6
Beryllium, Total	0.265(1)	0.499	0.406	0.512	0.478	0.356	0.211	<0.093	<0.092
Cadmium, Total	2.07	1.69	2.22	1.77	0.940	1.06	0.750	1.91	0.648
Calcium, Total	2000	2270	1190	1210	1250	828	685	343	471
Chromium, Total	18.3	13.9	15.1	14.5	8.22	7.74	3.37	3.09	3.88
Cobalt, Total	9.14(1)	3.79	3.19	4.06	2.63	2.89	2.02	<1.86	<1.84
Copper, Total	20.8	21.7	7.76	7.80	5.69	6.24	2.54	2.78	24.6
Iron, Total	17500	11000	20100	15700	6120	4330	1950	6680	6180
Lead, Total	170	73.1	13.5	16.3	8.1	4.7	<5.0	<5.0	<5.0
Magnesium, Total	1710	1580	1180	1180	915	1010	529	296	372
Manganese, Total	278(2)	299(1)	101(1)	45.1(1)	22.6(1)	27.7(1)	20.7(1)	246(1)	344(1)
Mercury, Total	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel, Total	10.2	7.60	12.1	10.2	8.46	8.03	3.88	5.58	3.81
Potassium, Total	1750	620(1)(2)(3)	790(1)(2)(3)	610(1)(2)(3)	440(1)(2)(3)	70(1)(2)(3)	240(1)(2)	220(1)(2)	620(1)(2)(3)
PCBs, Total Detectable	96	10	44	37	3	<1	<1	<1	<1
Aroclor, 1016	<5	<1	<5	<5	<1	<1	<1	<1	<1
Aroclor, 1221	<5	<1	<5	<5	<1	<1	<1	<1	<1
Aroclor, 1242	<5	<1	<5	<5	3	<1	<1	<1	<1
Aroclor, 1248	69	7	31	26	<1	<1	<1	<1	<1
Aroclor, 1254	<5	<1	<5	<5	<1	<1	<1	<1	<1
Aroclor, 1260	27	3	13	11	<1	<1	<1	<1	<1
Selenium, Total	<0.98	<0.39(1)	<0.39(1)	<0.38(1)	<0.36(1)	<0.38(1)	<0.39(1)	<0.39(1)	<0.40(1)
Silver, Total	<2.65(2)	<2.93	<2.89	<2.87	<2.71	<2.84	<2.96	<2.93	<2.99
Sodium, Total	57.3	82.0	234	223	244	220	123	87.8	72.8
Solids, Total	82.1%	88.1%	84.7%	86.8%	87.4%	88.1%	91.9%	94.7%	94.1%
Thallium, Total	<0.74	<0.73	<0.72	<0.72	<0.68	<0.71	<0.74	<0.73	<0.75
Vanadium, Total	21.0(1)	15.8	18.3	18.4	21.8	14.1	10.4	6.04	3.87
Zinc, Total	525	206(3)	32.0(2)	39.0(2)	23.4(2)	29.0(2)	18.6(2)	19.6(2)	17.6(2)

* - Split sample with IEPA representative.
 ** - Detected in laboratory blank.
 ★ - Dry weight basis.

(1) Spike recovery not within control limit.
 (2) Duplicate not within control limit.
 (3) Severe matrix interference.

TABLE P-2 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-A (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2045 0-1	2046 1-2	2047 2-5	2048D 2-5	2049* 5-8	2050 8-9	2051 9-10	2052 10-11	2053 11-12
<u>UNKNOWN/TENTATIVELY IDENTIFIED SEMIVOLATILE COMPOUNDS</u> Est. Concentrations (µg/kg)									
Xylene	NA	NA	1600	6700	ND	ND	ND	ND	ND
Unknown Benzene	NA	NA	1900	980	ND	ND	ND	ND	ND
Unknown	NA	NA	2200	10000	1100	710	470 **	410	960**
Decane	NA	NA	2200	7700	ND	ND	ND	ND	ND
Ethyl Methyl Benzene	NA	NA	1700	ND	ND	ND	ND	ND	ND
Unknown Hydrocarbon	NA	NA	1500	1700	870	ND	ND	ND	ND
Unknown Hydrocarbon	NA	NA	1500	1800	ND	ND	ND	ND	ND
Methyl(Methyl Ethyl) Benzene	NA	NA	2800	990	ND	ND	ND	ND	ND
Undecane	NA	NA	5400	6700	ND	ND	ND	ND	ND
Unknown Benzene	NA	NA	1100	1900	ND	ND	ND	ND	ND
Unknown Benzene	NA	NA	2000	ND	ND	ND	ND	ND	720**
Unknown	NA	NA	950	950	ND	490	560	ND	ND
Unknown Hydrocarbon	NA	NA	930	1200	ND	ND	ND	ND	ND
Dodecane	NA	NA	2200	1800	ND	ND	ND	ND	ND
Unknown	NA	NA	1700	1100	11000	740	380 **	ND	ND
Unknown Hydrocarbon	NA	NA	2000	ND	ND	ND	ND	ND	ND
Unknown Hydrocarbon	NA	NA	1600	ND	ND	ND	ND	ND	ND
Xylene	NA	NA	ND	2400	ND	ND	ND	ND	ND
Trimethyl Benzene	NA	NA	ND	2200	ND	ND	ND	ND	ND
Trimethyl Benzene	NA	NA	ND	1200	ND	ND	ND	ND	ND
Methyl Propyl Benzene	NA	NA	ND	900	ND	ND	ND	ND	ND
Methyl (Methyl Ethyl) Benzene	NA	NA	ND	1900	ND	ND	ND	ND	ND
Benzene	NA	NA	ND	1000	ND	ND	ND	ND	ND
Unknown	NA	NA	ND	1300	ND	ND	ND	ND	ND
Unknown Tetrachloro-1,1'-Biphenyl	NA	NA	ND	ND	ND	1200	580 **	1100	740**
1,1,2,2 Tetrachloroethane	NA	NA	ND	ND	ND	ND	ND	ND	ND

* - Split sample with IEPA representative.

** - Detected in laboratory blank.

NA - Not analyzed for this parameter

TABLE F-2 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-A (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2045 0-1	2046 1-2	2047 2-5	2048D 2-5	2049* 5-8	2050 8-9	2051 9-10	2052 10-11	2053 11-12
<u>SEMI-VOLATILE COMPOUNDS</u> µg/kg									
Naphthalene	NA	NA	<1000	[830]	<1000	<1000	<1000	<1000	<1000
Bis(2-Ethyl Hexyl)Phthalate	NA	NA	1700	[760]	<1000	<1000	<1000	<1000	<1000
<u>VOLATILE COMPOUNDS</u>									
µg/kg									
Acetone	NA	NA	<5000	10000	8900	6700	37	2300	94
2-Butanone	NA	NA	87000	92000	36000	6300	<10	1600	93
Toluene	NA	NA	31000	3000	<50	<50	<5	<50	<5
Total Xylenes	NA	NA	<7500	2600	<150	<150	<15	<150	<15
4-Methyl-2-Pentanone	NA	NA	<5000	<100	230	230	<10	<100	<10

* - Split sample with IEPA representative.
NA - Not analyzed for this parameter.
[] - Reported value is less than detection limit.

TABLE F-2 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-A (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2045 0-1	2046 1-2	2047 2-5	2048D 2-5	2049* 5-8	2050 8-9	2051 9-10	2052 10-11	2053 11-12
<u>UNKNOWN TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS</u> Est. Concentrations (µg/kg)									
2-Propanol	NA	NA	ND	570	1500	440	ND	360	ND
Acetic Acid, Methyl Ester	NA	NA	ND	86	290	ND	ND	ND	ND
2-Butanol	NA	NA	ND	560	520	450	ND	300	ND
Unknown	NA	NA	ND	52	87	ND	ND	ND	ND
Unknown	NA	NA	ND	100	ND	ND	ND	ND	ND
Unknown	NA	NA	ND	130	ND	ND	ND	ND	ND
2-Pentanone	NA	NA	ND	180	ND	71	ND	ND	ND
Unknown	NA	NA	ND	61	ND	ND	ND	ND	ND
Unknown	NA	NA	ND	190	ND	ND	ND	ND	ND
2-Methyl Propanol	NA	NA	ND	ND	56	ND	ND	ND	ND
1-Butanol	NA	NA	ND	ND	130	ND	ND	ND	ND
Acetic Acid, Butyl Ester	NA	NA	ND	ND	87	ND	ND	ND	ND

* - Split sample with IEPA representative.

NA - Not analyzed for this parameter.

ND - None detected.

TABLE F-3
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-B (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2036* 0-1	2037 1-2	2038* 2-5	2039 5-8	2040D 5-8	2041 8-9	2042 9-10	2043 10-11	2044 11-12
PARAMETER mg/kg★									
Aluminum, Total	9980	10100	5750	6380	5090	1730	1050	619	720
Antimony, Total	<0.98(1)	<1.94(1)	<1.92(1)	<1.90(1)	<1.79(1)	<1.60(1)	<1.66(1)	<1.60(1)	<1.91(1)
Arsenic, Total	5.62	8.64	14.8	3.16	0.71	0.49	1.13	0.98	4.88
Barium, Total	96.5	140	78.5	23.8	20.7	23.7	10.1	12.5	8.15
Beryllium, Total	0.452(1)	0.550(1)	0.402(1)	0.330(1)	0.254(1)	0.132(1)	<0.095(1)	<0.098(1)	<0.095(1)
Cadmium, Total	1.96	1.56	1.91	0.339	0.920	0.392	0.248	0.472	0.544
Calcium, Total	2480	1180	1390	250	4130	1310	569	522	559
Chromium, Total	19.1	16.4	17.8	5.31	4.29	6.74	2.95	3.47	3.20
Cobalt, Total	7.89(1)	7.91(1)	2.35(1)	2.91(1)	2.44(1)	2.16(1)	<1.91(1)	<1.96(1)	<1.90(1)
Copper, Total	24.4	14.0	10.7	5.11	4.02	4.65	2.04	2.62	2.80
Iron, Total	17500	11400	16600	6890	7980	4700	2130	6110	3060
Lead, Total	48.5	12.3	10.4	<5.0	<5.0	<5.0	<10	<5.0	<5.0
Magnesium, Total	1870	1740	1890	1110	885	1070	441	422	433
Manganese, Total	239(2)	223(2)	269(2)	148(2)	157(2)	37.8(2)	30.2(2)	219(2)	92.1(2)
Mercury, Total	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel, Total	10.0	16.0	10.2	9.49	8.33	8.10	3.79	5.80	4.03

* - Split sample with IEPA representative.

★ - Dry weight basis.

(1) Spike recovery not within control limit.

(2) Duplicate not within control limit.

TABLE F-3 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-B (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2036* 0-1	2037 1-2	2038* 2-5	2039 5-8	2040D 5-8	2041 8-9	2042 9-10	2043 10-11	2044 11-12
<u>PARAMETER mg/kg★</u>									
Potassium, Total	1750	1310	1270	725	227	490	121	221	234
PCBs, Total	85	23	15	<1	1	1	<1	<1	1
Aroclor, 1016	<5	<5	<1	<1	<1	<1	<1	<1	<1
Aroclor, 1221	<5	<5	<1	<1	<1	<1	<1	<1	<1
Aroclor, 1242	<5	<5	15	<1	1	1	<1	<1	<1
Aroclor, 1248	72	19	<1	<1	<1	<1	<1	<1	1
Aroclor, 1254	<5	<5	<1	<1	<1	<1	<1	<1	<1
Aroclor, 1260	13	4	<1	<1	<1	<1	<1	<1	<1
Selenium, Total	<0.96	<0.39	<0.39	<0.98	<0.39	<0.38	<0.38	<0.39	<0.38
Silver, Total	6.47(2)	11.0(2)	<2.88(2)	<3.01(2)	<2.80(2)	<2.40(2)	<2.48(2)	<2.40(2)	<2.87(2)
Sodium, Total	82.0	120	72.1	207	184	197	118	114	98.4
Solids, Total	84.3%	85.4%	87.8%	90.9%	90.3%	93.4%	93.4%	94.8%	95.3%
Thallium, Total	<0.72	<0.72	<0.74	<0.73	<0.73	<0.70	<0.72	<0.73	0.92
Vanadium, Total	24.7(1)	20.2(1)	11.1(1)	11.4(1)	12.3(1)	7.61(1)	6.68(1)	4.02(1)	4.74(1)
Zinc, Total	314	42.8	205	31.3	25.9	21.2	19.0	16.2	26.2
<u>VOLATILE COMPOUNDS</u> ug/kg									
Acetone	NA	NA	<50000	6800	10000	2900	260	60	<10
2-Butanone	NA	NA	200000	29000	21000	5000	190	94	<10
Toluene	NA	NA	850000	5800	150	<50	<50	<5	<5
Ethylbenzene	NA	NA	32000	<1000	<50	<50	<50	<5	<5
Total Xylenes	NA	NA	120000	<3000	<150	<150	<150	<15	<15

* - Split sample with IEPA representative.

★ - Dry weight basis.

(1) Spike recovery not within control limit.

(2) Duplicate not within control limit.

NA - Not analyzed for this parameter.

TABLE F-3 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-B (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2036* 0-1	2037 1-2	2038* 2-5	2039 5-8	2040D 5-8	2041 8-9	2042 9-10	2043 10-11	2044 11-12
<u>TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS</u> Est. Concentrations (ug/kg)									
2-Propanol	NA	NA	ND	ND	360	130	ND	ND	ND
Acetic Acid, Methyl Ester	NA	NA	ND	ND	130	ND	ND	ND	ND
2-Butanol	NA	NA	ND	ND	400	160	ND	ND	ND
Unknown	NA	NA	ND	ND	68	ND	ND	12	ND
Unknown	NA	NA	ND	ND	72	ND	ND	ND	ND
Unknown	NA	NA	ND	ND	93	ND	ND	ND	ND
<u>SEMI-VOLATILE COMPOUNDS</u> ug/kg									
Benzyl Alcohol	NA	NA	[930]	<1000	<1000	<1000	<1000	<1000	<1000
Bis(2-Ethyl Hexyl) Phthalate	NA	NA	1000	<1000	<1000	<1000	<1000	<1000	<1000

* - Split sample with IEPA representative.
ND - Not detected.
NA - Not analyzed for this parameter.
[] - Indicates value that is less than detection limit.

TABLE F-3 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING SB-B (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2036* 0-1	2037 1-2	2038* 2-5	2039 5-8	2040D 5-8	2041 8-9	2042 9-10	2043 10-11	2044 11-12
IDENTIFICATION IDENTIFIED SEMIVOLATILE COMPOUNDS Est. Concentrations (µg/kg)									
Xylene	NA	NA	21000	520	ND	ND	ND	ND	ND
Xylene	NA	NA	6600	ND	ND	ND	ND	ND	ND
Unknown Hydrocarbon	NA	NA	3000	650	ND	ND	ND	ND	ND
p-Butoxyl/Ethanol	NA	NA	1800	640	ND	ND	ND	ND	ND
Unknown	NA	NA	7000	980	520	1300**	1000**	870**	830**
Trimethyl Benzene	NA	NA	1800	ND	ND	ND	ND	ND	ND
Decane	NA	NA	12000	760	ND	ND	ND	ND	ND
Trimethyl Benzene	NA	NA	4400	ND	ND	ND	ND	ND	ND
Undecane	NA	NA	5100	2200	ND	ND	ND	ND	ND
Unknown	NA	NA	2700	3200	3600	ND	ND	ND	ND
Dichloro-1,1'-Biphenyl	NA	NA	2100	ND	ND	ND	ND	ND	ND
Unknown Benzene	NA	NA	1600	ND	ND	ND	ND	ND	ND

- - Split sample with IEPA representative.

** - Detected in Laboratory Blank.

ND - Not detected.

NA - Not analyzed for this parameter.

TABLE F-3 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING SB-B (SURFACE IMPOUNDMENT AREA)

SAMPLE I.D. DEPTH INTERVAL	2036* 0-1	2037 1-2	2038* 2-5	2039 5-8	2040D 5-8	2041 8-9	2042 9-10	2043 10-11	2044 11-12
<u>IDENTIFIED</u> <u>SEMIVOLATILE</u> <u>COMPOUNDS</u> Concentrations (µg/kg)									
1,1-Dimethyl Benzene	NA	NA	2500	ND	ND	ND	ND	ND	ND
1,1-Dichloro-1,1'-Biphenyl	NA	NA	2600	ND	ND	ND	ND	ND	ND
1,2-Dichloro-1,1'-Biphenyl	NA	NA	1700	ND	ND	ND	ND	ND	ND
1,2,3-Trichloro-1,1'-Biphenyl	NA	NA	4200	ND	ND	ND	ND	ND	ND
1,2,4-Trichloro-1,1'-Biphenyl	NA	NA	1800	ND	ND	ND	ND	ND	ND
1,2,5-Trichloro-1,1'-Biphenyl	NA	NA	1600	740	1200**	ND	ND	ND	ND
Unknown	NA	NA	11000	1300	ND	ND	ND	ND	ND
Unknown	NA	NA	11000	1700	ND	ND	ND	ND	ND
Unknown Acid	NA	NA	ND	800	ND	ND	ND	ND	ND
Unknown Hydrocarbon	NA	NA	ND	730	ND	ND	ND	ND	ND
Dodecane	NA	NA	ND	860	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NA	NA	ND	ND	ND	1200**	ND	450**	680**

- Split sample with IEPA representative.
 - Detected in Laboratory Blank.
 D - Not detected.
 A - Not analyzed for this parameter.

TABLE F-4
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-C (SOUTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2018 0-1	2019 1-2	2020 2-3	2021 3-4	2022 4-5	2023 5-6	2024 6-7
PARAMETER mg/kg							
Aluminum, Total	13084	4964	12060	9246	9857	1423	1331
Antimony, Total	<0.25	<0.21	<0.23	<0.23	<0.21	<0.19	0.34
Arsenic, Total	10	<1.65	7.0	20	14	<0.77	<0.86
Barium, Total	181	174	148	139	86	<15	<17
Beryllium, Total	0.50	0.58	0.46	0.83	0.86	0.38	0.43
Cadmium, Total	3.6	2.2	3.2	1.7	1.4	<0.31	<0.34
Calcium, Total	-	-	-	-	-	-	-
Chromium, Total	60	83	19	92	51	4.6	4.8
Cobalt, Total	8.0	12	7.4	15	15	3.1	3.4
Copper, Total	60	35	34	32	25	<0.7	<0.8
Iron, Total	13084	16545	11132	18491	15428	1308	1975
Lead, Total	402	265	102	3.7	188	2.8	2.0
Magnesium, Total	-	-	-	-	-	-	-
Manganese, Total	704	1240	835	1156	471	16	15
Mercury, Total	<0.10	<0.08	<0.09	0.18	<0.08	<0.08	<0.08
Nickel, Total	8.0	6.6	8.3	7.4	10	2.3	<2.6
Potassium, Total	-	-	-	-	-	-	-
PCBs, Total Detectable, mg/kg	2190	2470	1600	334	3100	121	100
Aroclor, 1016	<25	<58	<93	<23	<28	<0.2	<18
Aroclor, 1221	<25	<58	<93	<23	<28	<0.2	<18
Aroclor, 1232	<25	<58	<93	<23	<28	<0.2	<18
Aroclor, 1242	190	77	[47]	34	210	1.2	[16]
Aroclor, 1248	<25	<58	<93	<23	<28	<0.2	<18
Aroclor, 1254	<25	<58	<93	<23	<28	<0.2	<18
Aroclor, 1260	2000	2400	1600	300	2900	120	100
Selenium, Total	<0.5	<0.41	<0.46	<0.46	<0.43	<0.38	<0.43
Silver, Total	0.5	0.33	1.6	1.8	1.1	0.31	<0.34
Sodium, Total	-	-	-	-	-	-	-
Thallium, Total	<0.2	<0.17	<0.19	<0.18	<0.17	<0.17	<0.17
Vanadium, Total	25	43	25	39	33	1.8	4.8
Zinc, Total	252	165	232	139	86	9.2	12

□ - Value reported less than detection limit.

TABLE F-4 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-C (SOUTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2018 0-1	2019 1-2	2020 2-3	2021 3-4	2022 4-5	2023 5-6	2024 6-7
<u>VOLATILE COMPOUNDS ug/kg</u>							
Methylene Chloride	3500**	2600	2700**	2300**	3900**	4000**	3600**
Acetone	4100**	4200	4900**	4200**	7100**	2900**	2600**
Chloroform	630**	580	760**	650**	620**	510**	[460]**
2-Butanone	9200	ND	12000	9300	8200	<500	<1000
Benzene	[270]**	[260]	[310]**	[270]**	[290]**	[260]	[230]
Toluene	<500**	1900	2400**	2300**	2600**	1700**	3100**
Ethylbenzene	[200]**	[160]	[270]**	[340]**	[440]**	[150]	[270]
Total Xylenes	[470]**	[380]	970**	1900**	4100**	520**	2200**
Chlorobenzene	<500	<500	<500	<500	600	<500	[93]

ND - None Detected.
 0 - Value reported less than detection limit.
 ** - Compound detected in lab blank.

TABLE P-4 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-C (SOUTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2018 0-1	2019 1-2	2020 2-3	2021 3-4	2022 4-5	2023 5-6	2024 6-7
<u>TENTATIVELY IDENTIFIED*</u> <u>VOLATILE ORGANICS ug/kg</u>							
Acetic Acid, Methyl Ester	3430	5060	2300	2680	2000	ND	ND
C6 Alkane	3890	ND	ND	3900	ND	ND	ND
Unknown	18040	9600	8600	9025	5500	10824	12050
Urea	ND	11060	ND	ND	ND	ND	ND
Hexane	ND	4790	4300	ND	ND	3640	ND
Unknown	ND	ND	11000	ND	ND	35280	ND
Unknown	ND	ND	1200	ND	ND	ND	ND
C6 Substituted Cycloalkane	ND	ND	600	500	8000	ND	ND
Unknown Hydrocarbon	ND	ND	1900	ND	9600	ND	ND
Unknown Hydrocarbon	ND	ND	930	ND	19000	ND	ND
Dichlorobenzene	ND	ND	23000	ND	ND	ND	ND
C9 Aromatic	ND	ND	ND	2200	16000	ND	ND
C9 Substituted Cyclo Alkane	ND	ND	ND	1460	7900	ND	ND
C8-10 Alkane	ND	ND	ND	12560	ND	ND	ND
Dichlorobenzene	ND	ND	ND	6950	54000	ND	305800
Dichlorobenzene	ND	ND	ND	256100	2300000	ND	ND
C9-10 Alkane or Cyclo Alkane	ND	ND	ND	ND	91000	ND	ND
Nitrogen Containing Alkane	ND	ND	ND	ND	ND	ND	7000
Pentane, 3-Methyl	ND	ND	ND	ND	ND	ND	3630
C-9 Alkane	ND	ND	ND	ND	ND	ND	17630
Cyclic C-9 Hydrocarbon	ND	ND	ND	ND	ND	ND	5980
C-10 Alkane	ND	ND	ND	ND	ND	ND	29500

ND - Not detected.
* - All tentatively identified volatile organics are reported less than detection limits.

TABLE F-4 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-C (SOUTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2018 0-1	2019 1-2	2020 2-3	2021 3-4	2022 4-5	2023 5-6	2024 6-7
SEMI-VOLATILE COMPOUNDS ug/kg							
1,3-Dichlorobenzene	ND	6100	4500	1800	5600	<330	960
1,4-Dichlorobenzene	44000	77000	<330	43000	140000	430	14000
1,2-Dichlorobenzene	2000	6400	<330	1300	7500	<330	890
4-Methyl Phenol	[78]	<330	<330	<330	<330	<330	<330
1,2,4-Trichlorobenzene	460000	300000	2100	27000	170000	4000	55000
2,4,5-Trichlorophenol	[1500]	<1600	<1600	<1600	<1600	<1600	<1600
2-Nitroaniline	[640]	<1600	<1600	<1600	<1600	<1600	<1600
Dimethyl Phthalate	[92]	<330	<330	<330	[130]	<330	<330
Acenaphthylene	[81]	<330	<330	<330	<330	<330	<330
Acenaphthene	[63]	<330	<330	<330	<330	<330	<330
Dibenzofuran	[86]	<330	<330	<330	[20]	<330	<330
Fluorene	[120]	<330	<330	<330	[81]	<330	<330
Phenanthrene	[100]	1500	<330	<330	600	<330	<330
Di-N-Butyl Phthalate	2500	14000	1500	3500	5800	1300	2200
Fluoranthene	[120]	<330	<330	<330	[100]	<330	<330
Pyrene	[49]	<330	<330	<330	<330	<330	<330
Bis(2-Ethyl Hexyl)Phthalate	150000	27000	800	5700	66000	<330	4300
Chrysene	[140]	<330	<330	<330	<330	<330	<330
Di-N-Octyl Phthalate	[12]	<330	<330	<330	<330	<330	<330
Benzo(K)Fluoranthene	[160]	<330	<330	<330	[110]	<330	<330
Naphthalene	<330	410	<330	[49]	350	<330	<330
2-Methyl Naphthalene	<330	560	<330	<330	430	<330	<330
Hexachlorobenzene	<330	9700	<330	<330	2700	<330	<330
Nitrobenzene	<330	<330	<330	<330	[93]	<330	<330
4-Nitroaniline	<1600	<1600	<1600	<1600	[540]	<1600	<1600
N-Nitrosodiphenylamine(1)	<330	<330	<330	<330	[120]	<330	<330
Anthracene	<330	<330	<330	<330	[28]	<330	<330
Butyl Benzyl Phthalate	<330	<330	<330	<330	[52]	<330	<330
Benzo(a)Anthracene	<330	<330	<330	<330	[120]	<330	<330
Benzo(b)Fluoranthene	<330	<330	<330	<330	[110]	<330	<330

□ - Value reported less than detection limit.

(1) - Cannot be separated from diphenylamine.

TABLE F-4 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-C (SOUTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2018 0-1	2019 1-2	2020 2-3	2021 3-4	2022 4-5	2023 5-6	2024 6-7
<u>TENTATIVELY IDENTIFIED SEMI-VOLATILE ORGANICS*</u> ug/kg							
C-10 Alkane	79000	ND	ND	ND	17000	ND	ND
Unknown Phthalate	110500	ND	ND	ND	ND	ND	ND
Trichlorobenzene	897000	365000	ND	51000	310000	ND	44000
Tetrachlorobenzene	212100	127300	ND	8300	420000	129000	17000
Tetrachlorobenzene	252000	1025500	ND	103000	ND	ND	150000
Tetrachlorobenzene	2400000	ND	ND	ND	ND	ND	ND
Pentachlorobenzene	1065000	450000	ND	45000	210000	20500	31000
Hexachlorobiphenyl	246000	ND	ND	ND	ND	ND	ND
Hexachlorobiphenyl	300000	ND	ND	ND	ND	ND	ND
Hexachlorobiphenyl	247000	ND	ND	ND	ND	ND	ND
Unknown Phthalate	330000	ND	ND	ND	ND	ND	ND
Heptachlorobiphenyl	687000	129000	ND	ND	270000	31200	41000
Octachlorobiphenyl	320000	156000	ND	ND	130000	ND	ND
Octachlorobiphenyl	251000	173500	ND	ND	ND	ND	ND
Octachlorobiphenyl	402000	ND	ND	ND	ND	ND	ND
Nonachlorobiphenyl	68000	ND	ND	ND	ND	ND	ND
Unknown	525000	ND	850000	94000	ND	ND	ND
Unknown	1111200	ND	37000	1400000	ND	ND	ND
Unknown Hydrocarbon	ND	793000	ND	ND	810000	251000	590000
Unknown Hydrocarbon	ND	60200	ND	ND	20000	ND	ND
C8-10 Alkane	ND	152000	ND	ND	ND	52500	ND
Pentachlorobiphenyl	ND	155000	ND	ND	130000	15400	21000
Pentachlorobiphenyl	ND	134000	ND	ND	120000	20700	20000

* - All tentatively identified semi-volatile organics are reported less than detection limit.
ND- None detected.

TABLE F-4 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-C (SOUTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2018 0-1	2019 1-2	2020 2-3	2021 3-4	2022 4-5	2023 5-6	2024 6-7
<u>TENTATIVELY IDENTIFIED SEMI-VOLATILE ORGANICS*</u> ug/kg							
Pentachlorobiphenyl	ND	258000	ND	ND	ND	ND	26000
Hexachlorobiphenyl	ND	198900	ND	ND	170000	20300	26000
Hexachlorobiphenyl	ND	242000	ND	ND	270000	53600	84000
Hexachlorobiphenyl	ND	302500	ND	ND	160000	55600	76000
Heptachlorobiphenyl	ND	204000	ND	ND	120000	22000	16000
Heptachlorobiphenyl	ND	387500	ND	ND	460000	46000	34000
Heptachlorobiphenyl	ND	289000	ND	ND	ND	17700	16000
Halogenated Alkane	ND	ND	53000	ND	ND	ND	ND
C-9 Alkane	ND	ND	45000	82000	ND	115500	ND
C-9 Alkane	ND	ND	40000	5500	ND	ND	ND
Unknown	ND	ND	7200	84000	ND	ND	ND
Halogenated Benzene	ND	ND	4100	ND	ND	ND	ND
Halogenated Benzene	ND	ND	5000	ND	ND	ND	ND
Halogenated Benzene	ND	ND	5700	ND	ND	ND	ND
Unknown	ND	ND	28000	33000	ND	ND	ND
PCB-3 Chlorines	ND	ND	19000	ND	ND	ND	ND
PCB-4 Chlorines	ND	ND	10000	ND	ND	ND	ND
PCB-4 Chlorines	ND	ND	7700	ND	ND	ND	ND
PCB-4 Chlorines	ND	ND	10000	ND	ND	ND	ND
PCB-4 Chlorines	ND	ND	18000	ND	ND	ND	ND
PCB-5 Chlorines	ND	ND	18000	65000	ND	ND	ND
PCB-6 Chlorines	ND	ND	50000	150000	ND	ND	ND
PCB-6 Chlorines	ND	ND	42000	130000	ND	ND	ND
PCB-6 Chlorines	ND	ND	37000	140000	ND	ND	ND
PCB-7 Chlorines	ND	ND	32000	74000	ND	ND	ND

* - All tentatively identified semi-volatile organics are reported less than detection limit.

ND - None detected.

TABLE F-4 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-C (SOUTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2018 0-1	2019 1-2	2020 2-3	2021 3-4	2022 4-5	2023 5-6	2024 6-7
<u>TENTATIVELY IDENTIFIED SEMI-VOLATILE ORGANICS*</u> ug/kg							
C10-19 Alkane	ND	72700	ND	ND	ND	ND	ND
Alkane Hydrocarbon	ND	ND	ND	83000	ND	ND	ND
C-9 Aromatic	ND	ND	ND	12000	ND	ND	ND
Oxygenated C-7	ND	ND	ND	9900	ND	ND	ND
PCB-5 Chlorines	ND	ND	ND	60000	ND	ND	ND
PCB-7 Chlorines	ND	ND	ND	120000	ND	ND	ND
PCB-8 Chlorines	ND	ND	ND	43000	ND	ND	ND
PCB-8 Chlorines	ND	ND	ND	21000	ND	ND	ND
C9-10 Alkane	ND	ND	ND	ND	59000	146500	ND
C9-10 Alkane	ND	ND	ND	ND	160000	108500	ND
C10-11 Alkane	ND	ND	ND	ND	33000	ND	ND
Xylene	ND	ND	ND	ND	90000	ND	ND
C-19 Alkane	ND	ND	ND	ND	250000	48400	23000
Hexachlorobiphenyl	ND	ND	ND	ND	ND	279500	ND
C-6 Ketone	ND	ND	ND	ND	ND	304000	ND
C-7 Alcohol	ND	ND	ND	ND	ND	45000	ND
C-6-7 Ketone	ND	ND	ND	ND	ND	ND	17000
Hexachlorobiphenyl	ND	ND	ND	ND	ND	ND	57000
Hexachlorobiphenyl	ND	ND	ND	ND	ND	ND	64000
Heptachlorobiphenyl	ND	ND	ND	ND	ND	ND	27000
Heptachlorobiphenyl	ND	ND	ND	ND	ND	ND	ND

* - All tentatively identified semi-volatile organics are reported less than detection limit.
ND- None detected.

TABLE P-5
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-D (IN DRAINAGEWAY SOUTH OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2025 0-1	2026 1-2	2027 2-3	2028 3-4	2029 4-5	2030 5-6	2031 6-7
PARAMETER mg/kg★							
Aluminum, Total	6510	7270	11900	6160	8880	6610	6470
Antimony, Total	<1.95(1,2)	<1.94(1)	<1.98(1)	<1.97(1)	<1.99(1)	<1.77(1)	<1.98(1)
Arsenic, Total	6.22	6.86	4.95	9.16	5.81	2.92	3.43
Barium, Total	103	138	103	254	177	121	114
Beryllium, Total	0.439	0.621	0.425	0.956	0.499	0.470	0.456
Cadmium, Total	1.80(1)	1.00(1)	1.91(1)	1.63(1)	1.63(1)	2.48(1)	0.614(1)
Calcium, Total	24,900	1760	2910	1390	2560	952	1130
Chromium, Total	10.6(1)	8.58(1)	13.6(1)	20.8(1)	11.8(1)	8.27(1)	7.86(1)
Cobalt, Total	5.27	6.89	5.24	21.5	9.17	5.94	2.87
Copper, Total	13.4	6.21	12.5	5.52	10.4	5.59	9.22
Iron, Total	11300	12400(1)	19100	27000	19400	10900	6430
Lead, Total	66	16	19	44	26	11	7.9
Magnesium, Total	2260	719	216	813	1790	1100	1160
Manganese, Total	680	1030	351	3230	1410	562	264
Mercury, Total	<0.05	<0.05	0.051	<0.05	<0.05	<0.05	<0.05
Nickel, Total	8.85	6.50	10.7	10.7	10.1	7.31	8.20
Potassium, Total	1100	1500	1900(2)	840	720	590	400(2)
PCBs, Total	4	<1	<1	<1	<1	<1	<1
Aroclor, 1016	<1	<1	<1	<1	<1	<1	<1
Aroclor, 1221	<1	<1	<1	<1	<1	<1	<1
Aroclor, 1242	<1	<1	<1	<1	<1	<1	<1
Aroclor, 1248	<1	<1	<1	<1	<1	<1	<1
Aroclor, 1254	<1	<1	<1	<1	<1	<1	<1
Aroclor, 1260	4	<1	<1	<1	<1	<1	<1
Selenium, Total	<1.00(1,2)	<0.98(1,2)	<1.00(1)	<0.99(1)	<1.00(1)	<0.96(1)	<0.98(1)
Silver, Total	<2.93	<2.91	6.30	<2.96	<2.99	<2.66	<2.97
Sodium, Total	115	57.3	193	109	174	163	161
Solids, Total	82.5%	85.2%	81.8%	83.0%	82.6%	83.6%	86.0%
Thallium, Total	<0.73	<0.73	<0.74	<0.74	<0.75	<0.67	<0.74
Tin, Total	<98.9	NA	NA	NA	NA	NA	NA
Vanadium, Total	19.7	22.6	25.3	48.0	27.6	19.3	12.9
Zinc, Total	143	22.2	50	32.1	33.5	19.1	26.7

(1) Spike recovery not within control limit.

(2) Severe matrix interference.

★ Dry weight basis.

TABLE F-5 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING SB-D (IN DRAINAGEWAY SOUTH OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2025 0-1	2026 1-2	2027 2-3	2028 3-4	2029 4-5	2030 5-6	2031 6-7
<u>VOLATILE COMPOUNDS</u> ug/kg							
Acetone	<10	<10	<10	<10	<10	13	16
TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS ug/kg	ND	ND	ND	ND	ND	ND	ND
SEMI-VOLATILE COMPOUNDS ug/kg	ND	ND	ND	ND	ND	ND	ND
UNKNOWN/ TENTATIVELY IDENTIFIED COMPOUNDS Estimated Concentrations (ug/kg)							
1,1,2,2-Tetrachloroethane	810**	720**	620**	660**	680**	730**	750**
Unknown	950**	930**	770**	ND	610**	310	ND
Unknown	540	680	ND	ND	ND	ND	ND
Unknown	510	1300	ND	ND	ND	ND	ND
Unknown	950	390	ND	ND	ND	ND	ND
Unknown	2100	ND	ND	ND	ND	ND	ND

** - Detected in Laboratory Blank.

ND - Not detected.

TABLE F-6
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-A (NORTH OF FACILITY)

SAMPLE I.D. DEPTH INTERVAL	2004* 0-1.5	2005 4.5-6.0	2006 9.0-10.5	2007 13.5-15	2008* 18-20
PARAMETERS mg/kg★					
Aluminum, Total	784	4810	4110	931	764
Antimony, Total	<1.95(1)	<1.99(1)	<1.97(1)	<1.87(1)	<1.98(1)
Arsenic, Total	1.15(1)	2.35(1)	3.15(1)	1.13(1)	1.88(1)
Barium, Total	6.74	88.5	46.1	6.97	8.80
Beryllium, Total	<0.098(1)	<0.100(1)	0.217(1)	<0.093(1)	<0.099(1)
Cadmium, Total	0.322(1)	0.667(1)	0.709	0.719(1)	0.653(1)
Calcium, Total	2240	1300	5040	2530	31500
Chromium, Total	3.00(1)	8.05(1)	14.4	2.59	2.47(1)
Cobalt, Total	<1.95	<1.99	2.17	<1.87	1.98
Copper, Total	3.75	4.59	9.49	4.31	4.36
Iron, Total	5120	3600	5970	3830	2470
Lead, Total	<5.0	7.0	7.9	<5.0	11
Magnesium, Total	1030	722	851	1020	8780
Manganese, Total	138	24.4	42.4	133	153
Mercury, Total	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel, Total	3.17(1)	5.86(1)	6.27(1)	2.89(1)	3.55(1)
Potassium, Total	300	750(2)	810	730	300
PCBs, Total	<1	<1	<1	<1	<1
Aroclor, 1016	<1	<1	<1	<1	<1
Aroclor, 1221	<1	<1	<1	<1	<1
Aroclor, 1242	<5	<1	<1	<1	<1
Aroclor, 1248	<1	<1	<1	<1	<1
Aroclor, 1254	<1	<1	<1	<1	<1
Aroclor, 1260	<1	<1	<1	<1	<1
Selenium, Total	<0.391(1)	<0.398(1)	<0.394(1)	<0.373(1)	<0.396(1)
Silver, Total	<2.93(1)	<2.99(1)	<2.96(1)	<2.00(1)	32.4(1)
Sodium, Total	430	209	112	39.2	51.4
Solids, Total	86.4%	90.8%	89.2%	90.4%	82.5%
Thallium, Total	<0.97	<1.00	<0.96	<0.93	<0.88
Vanadium, Total	2.83(1)	12.3(1)	18.1(1)	3.55(1)	2.97(1)
Zinc, Total	13.5(1)	10.5(1)	43.9(1)	14.3(1)	29.0(1)
VOLATILE COMPOUNDS					
ug/kg					
Acetone	<10	67	2500	120	200

* - Split sample with IEPA representative.

(1) Spike recovery not within control limit.

(2) Severe matrix interference.

★ Dry weight basis.

TABLE F-6 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-A (NORTH OF FACILITY)

SAMPLE I.D. DEPTH INTERVAL	2004* 0-1.5	2005 4.5-6.0	2006 9.0-10.5	2007 13.5-15	2008* 18-20
<u>TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS</u> Estimated Concentrations (ug/kg)	ND	ND	290	22	11
2-Propanol					
<u>SEMIVOLATILE COMPOUNDS</u> ug/kg	ND	ND	ND	ND	ND
<u>TENTATIVELY IDENTIFIED ORGANIC SEMIVOLATILE COMPOUNDS</u> Estimated Concentrations (ug/kg)					
Unknown	ND	640	520	590	640

* - Split sample with IEPA representative.

ND - Not Detected.

TABLE F-7
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-B
(NORTHWEST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2014 0-1.5	2015 4.5-6	2016 9-10.5	2017 13.5-15
<u>PARAMETER</u> mg/kg				
Aluminum, Total	7366	4510	1874	938
Antimony, Total	<0.23	<0.22	<0.24	<0.22
Arsenic, Total	6.4	18	3.0	<0.89
Barium, Total	55	18	<19	<18
Beryllium, Total	0.64	0.72	0.38	<0.4
Cadmium, Total	0.55	0.90	<0.38	<0.36
Calcium, Total	-	-	-	-
Chromium, Total	14	9.0	5.7	4.5
Cobalt, Total	7.4	5.4	<2.8	<2.7
Copper, Total	13	7.2	<0.9	<0.8
Iron, Total	10128	13529	1998	3662
Lead, Total	16	8.2	4.2	2.9
Magnesium, Total	-	-	-	-
Manganese, Total	253	78	34	143
Mercury, Total	<0.08	<0.09	<0.07	<0.07
Nickel, Total	6.4	9.0	1.9	1.8
Potassium, Total	-	-	-	-
PCBs, Total Detectable (ug/kg)	750	710	210	1200
Aroclor, 1016	<240	<290	<210	<370
Aroclor, 1221	<240	<290	<210	<370
Aroclor, 1242	<240	<290	<210	<370
Aroclor, 1232	[180]	[190]	[120]	[190]
Aroclor, 1248	<240	<290	<210	<370
Aroclor, 1254	<240	<290	<210	<370
Aroclor, 1260	750	710	210	1200
Selenium, Total	<0.46	<0.45	<0.48	<0.45
Silver, Total	<0.37	<0.36	<0.38	<0.36
Sodium, Total	-	-	-	-
Thallium, Total	<0.19	<0.18	<0.19	<0.20
Vanadium, Total	25	22	8.6	6.8
Zinc, Total	57	23	22	13

□ - Value reported less than detection limit.

TABLE F-7 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-B
 (NORTHWEST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2014 0-1.5	2015 4.5-6	2016 9-10.5	2017 13.5-15
<u>VOLATILE COMPOUNDS ug/kg</u>				
Methylene Chloride	3800**	2400	4000**	4500**
Acetone	2500**	4200	2400**	5800**
Chloroform	500**	[460]	570**	880**
Toluene	1600**	1400	2000**	2300**
Total Xylenes	480**	510	600**	2800**
2-Butanone	<950	6000	11000	<1000
Benzene	<480	[240]	[450]	570**
Ethylbenzene	<480	[180]	[170]	530**
1,1-Dichloroethene	<480	<500	[280]	[170]
Trichloroethene	<480	<500	[230]	[310]
Chlorobenzene	<480	<500	[200]	[350]
Bromomethane	<950	<1000	<1000	[140]
Vinyl Chloride	<950	<1000	<1000	[48]
Chloroethane	<950	<1000	<1000	[150]
Carbon Disulfide	<480	<500	<500	[380]
1,1-Dichloroethane	<480	<500	<500	[220]
Trans-1,2-Dichloroethene	<480	<500	<500	[200]
1,1,1-Trichloroethane	<480	<500	<500	[230]
1,2-Dichloropropane	<480	<500	<500	[260]
Cis-1,3-Dichloropropene	<480	<500	<500	[290]
Tetrachloroethene	<480	<500	<500	[370]
1,1,2,2-Tetrachloroethane	<950	<1000	<1000	[220]
Styrene	<480	<500	<500	600

** - Compound detected in lab blank.
 [] - Value reported less than detection limit.

TABLE F-7 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-B
 (NORTHWEST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2014 0-1.5	2015 4.5-6	2016 9-10.5	2017 13.5-15
<u>TENTATIVELY IDENTIFIED VOLATILE ORGANICS ug/kg*</u>				
Dimethyl Benzene	2100	ND	ND	ND
Hexane	3760	ND	3150	3880
Unknown	5440	550	6430	5570
Unknown	10375	3400	5420	850
Unknown	38430	150	655	5380
Unknown	1560	2290	730	ND
Unknown	ND	3250	ND	ND
Methyl Acetate	ND	1160	2560	ND
1,1,2-Trichloro-1,2,2-Trifluoro Ethane	ND	ND	1170	ND
<u>SEMI-VOLATILE COMPOUNDS ug/kg</u>				
Di-N-Butylphthalate	2400	2100	[230]	1500
Bis(2-Ethyl Hexyl)Phthalate	<330	<330	390	<330

ND - Compound not detected.

□ - Value reported less than detection limit.

* - All tentatively identified volatile organics are reported less than detection limit.

TABLE F-7 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-B
 (NORTHWEST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2014 0-1.5	2015 4.5-6	2016 9-10.5	2017 13.5-15
<u>TENTATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS ug/kg*</u>				
C-6 Alkane	8030	ND	ND	ND
Oxygenated C-7	1150000	12670	ND	ND
C-9 Alkane	21100	34670	5400	15400
C-9 Alkane	26770	ND	ND	6200
Benzenedicechoxylic Acid Derv.	3570	ND	ND	ND
Alkane Hydrocarbon	1000	ND	ND	ND
Unknown Hydrocarbon	1000	ND	13700	5750
Methyl Subs Hexane	1730	ND	ND	ND
Oxygenated C-10	1050	ND	ND	ND
Unknown	36800	16900	ND	18600
Unknown	21450	20950	ND	ND
Unknown	19450	3020	ND	ND
Unknown	18000	33100	ND	ND
Unknown	1900	1307000	ND	ND
Unknown	21100	86450	ND	ND
Unknown	2080	9800	ND	ND
Unknown	1520	680	ND	ND
Unknown	2000	1800	ND	ND
Unknown	1500	1200	ND	ND
Unknown	2800	ND	ND	ND
Oxygenated C-6	ND	41100	ND	ND
C-10 Alkane	ND	28950	1800	ND
C-10 Alkane	ND	550	ND	ND
C-10 Alkane	ND	650	ND	ND

ND - Compound not detected.

* - All tentatively identified semi-volatile organics are reported less than detection limit.

TABLE F-7 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-B
 (NORTHWEST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2014 0-1.5	2015 4.5-6	2016 9-10.5	2017 13.5-15
<u>TENTATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS ug/kg*</u>				
C-4 Alkane Containing O ₂ +N ₂	ND	1800	ND	ND
Chlorinated C4 Alkane	ND	5050	ND	ND
Propanoic Acid Derv.	ND	26950	ND	ND
Benzenedicarboxylic Acid Derv.	ND	2970	ND	ND
C6-8 Ketone	ND	ND	1210	ND
Unknown Hydrocarbon	ND	ND	457000	ND
C6-7 Ketone	ND	ND	1770	56600
C7 Ketone	ND	ND	860	ND
Unknown Alkane	ND	ND	960	24200
C8-9 Alkane	ND	ND	1280	ND
Unknown Alkane	ND	ND	1190	ND
Unknown Hydrocarbon	ND	ND	31100	3020
Unknown Phthalate	ND	ND	4120	2400
Unknown Hydrocarbon	ND	ND	7830	1400
Unknown Hydrocarbon	ND	ND	1320	1200
Unknown Hydrocarbon	ND	ND	1430	1600
Unknown Hydrocarbon	ND	ND	1570	1100
C10+Hydrocarbon	ND	ND	6880	ND
C6 Ketone	ND	ND	ND	629500
C9-10 Alkane	ND	ND	ND	70400
C9 Alkane	ND	ND	ND	51000
C9 Alkane	ND	ND	ND	55700
C9-10 Alkane	ND	ND	ND	46700
Unknown Hydrocarbon	ND	ND	ND	1510
Unknown Hydrocarbon	ND	ND	ND	1850
Unknown Hydrocarbon	ND	ND	ND	3300

ND - Compound not detected.

* - All tentatively identified semi-volatile organics are reported less than detection limit.

TABLE F-8
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-C
(NORTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2009 0-1.5	2010 6-7.5	2011 9-10.5	2012 12-13.5	2013D 12-13.5
<u>PARAMETER</u> mg/kg★					
Aluminum, Total	13800	839	2120	806	1440
Antimony, Total	<1.86(1)	<1.99(1)	<1.96(1)	<1.99(1)	<1.92(1)
Arsenic, Total	13.9(1)	2.36(1)	2.38(1)	2.60	3.47
Barium, Total	85.6	158	18.6	5.68	14.9
Beryllium, Total	0.749	<0.098	0.098	0.139	0.096
Cadmium, Total	2.97	2.40	0.727(1)	0.328(1)	0.326(1)
Calcium, Total	7780	2160	804	36100	34700
Chromium, Total	22.1	14.2	4.48(1)	3.05(1)	3.05(1)
Cobalt, Total	4.29	<1.96	3.04	<1.99	2.02
Copper, Total	16.2	9.47	5.11	3.28	7.20
Iron, Total	27000	20500	11700	1740	4620
Lead, Total	24.2	11.9	<5.0	10	11
Magnesium, Total	3400	2970	733	8330	11300
Manganese, Total	385	319	210	121	128
Mercury, Total	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel, Total	13.5	13.4	7.02	3.85	4.87
Potassium, Total	1500 (1)(2)	810(1)(2)(3)	470(3)	530	460(3)
PCBs, Total Detectable	<1	<1	1	<1	<1
Aroclor, 1016	<1	<1	<1	<1	<1
Aroclor, 1221	<1	<1	<1	<1	<1
Aroclor, 1242	<1	<1	1	<1	<1
Aroclor, 1248	<1	<1	<1	<1	<1
Aroclor, 1254	<1	<1	<1	<1	<1
Aroclor, 1260	<1	<1	<1	<1	<1
Selenium, Total	<0.37(1)(3)	<0.40(1)	<0.99(1)(3)	<0.98(1)(3)	<0.97(1)(3)
Silver, Total	<2.79	<2.98	<2.95	<2.99	<2.88
Sodium, Total	153	186	45	94.5	105
Solids, Total	85.9%	85.1%	91.6%	84.5%	84.7%
Thallium, Total	<0.70	<0.75	<0.74	<0.75	<0.72
Tin, Total	<99.6	99.7	<99.5	<98.5	<93.4
Vanadium, Total	25.8	3.04	5.70	2.59	5.57
Zinc, Total	57.6(2)	44.7	20.2	11.8	18.1
<u>VOLATILE COMPOUNDS</u> µg/kg					
Methylene Chloride	7	<5	<5	<5	5
Acetone	11	10	32	<10	120
<u>UNKNOWN/TENTATIVE- LY IDENTIFIED</u> <u>VOLATILE COMPOUNDS</u> µg/kg	ND	ND	ND	ND	ND
<u>SEMI-VOLATILE</u> <u>ORGANICS</u> µg/kg	ND	ND	ND	ND	ND

ND - None detected.

** - Detected in laboratory blank.

★ - Dry weight basis.

(1) Spike recovery not within control limit

(2) Duplicate not within control limit

(3) Severe matrix interference

TABLE F-8 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-C
 (NORTHEAST CORNER OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2009 0-1.5	2010 6-7.5	2011 9-10.5	2012 12-13.5	2013D 12-13.5
<u>UNKNOWN/ TENTATIVELY IDENTIFIED SEMI- VOLATILE COMPOUNDS</u>					
Est. Concentrations (µg/kg)	1000** 540** ND	950** 580** 540**	760** 640** ND	530** ND ND	760 ** 730 ** ND
1,1,2,2-Tetrachloroethane					
Unknown					
Unknown					

ND - None detected.

** - Detected in laboratory blank.

TABLE F-9
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-D
(SOUTH OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2032 0-1.5	2033 4.5-6	2034 9-10.5	2035 12-13.5
<u>PARAMETER</u> mg/kg ★				
Aluminum, Total	7900	12900	3030	2710
Antimony, Total	<1.84(1)	<1.95(1)	<1.97(1)	<1.94(1)
Arsenic, Total	8.08	7.58	2.79	0.96
Barium, Total	102	209	18.1	22.0
Beryllium, Total	0.404	0.498	0.197	0.126
Cadmium, Total	1.39	2.44	1.11	0.330
Calcium, Total	2500	2220	1970	19300
Chromium, Total	9.18	7.91	5.78	4.38
Cobalt, Total	5.88	<1.95	2.17	<1.94
Copper, Total	2.48	3.52	5.87	4.26
Iron, Total	13300	12600	20500	4300
Lead, Total	12	13	11	8.7
Magnesium, Total	1320	2410	11600	6790
Manganese, Total	405	57.3	144	110
Mercury, Total	<0.05	<0.05	<0.05	<0.05
Nickel, Total	10.1	15.1	7.42	6.14
Potassium, Total	620(1)(3)	1000(1)	810(1)	420(1)
Selenium, Total	<0.37	<0.39	<0.39(3)	<0.39
PCBs, Total	<1	<1	<1	<1
Aroclor, 1016	<1	<1	<1	<1
Aroclor, 1221	<1	<1	<1	<1
Aroclor, 1242	<1	<1	<1	<1
Aroclor, 1248	<1	<1	<1	<1
Aroclor, 1254	<1	<1	<1	<1
Aroclor, 1260	<2.75(1)	<2.93(1)	5.56(1)	4.10(1)
Silver, Total	321	215	90.7	83.5
Sodium, Total	82.5%	82.0%	80.6%	81.1%
Solids, Total	<0.69	<0.73	<0.74	<0.73
Thallium, Total	19.8	18.1	11.5	5.83
Vanadium, Total	36.5(1)	36.1(1)	29.3(1)	21.1(1)
Zinc, Total				
<u>VOLATILE COMPOUNDS</u> ug/kg				
Acetone	11	<10	<10	<10
<u>UNKNOWN/TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS</u> ug/kg	ND	ND	ND	ND
<u>SEMI-VOLATILE COMPOUNDS</u> ug/kg	ND	ND	ND	ND

ND - Not detected.

** - Appeared in laboratory blank.

★ - Dry weight basis.

(1) Spike recovery not within control limit.

(2) Duplicate not within control limit.

(3) Severe matrix interference.

TABLE F-9 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS SOIL BORING FOR MONITOR WELL MW-D
 (SOUTH OF SITE)

SAMPLE I.D. DEPTH INTERVAL	2032 0-1.5	2033 4.5-6	2034 9-10.5	2035 12-13.5
<u>UNKNOWN/ TENTATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS</u> Est. Concentrations (µg/kg)				
1,1,2,2-Tetrachloroethane	400 **	410 **	610 **	480 **
Unknown	400	530	420	820
Unknown	1600 **	900 **	650 **	1100 **
Unknown	ND	410 **	ND	ND

ND - Not detected.

** - Appeared in laboratory blank.

TABLE F-10
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS
PCB SURFACE WIPE SAMPLES
CONCRETE SLAB

SAMPLE I.D. LOCATION	1000 COOLING RACK WS-1	1001 SW CORNER PAD WS-2	1002 W SIDE BACK PAD WS-3	1003 E SIDE BACK PAD WS-4	1004 TANK AREA WS-5	2003* SEDIMENT ON PAD SB-9
<u>PARAMETER</u> ug/100 cm ²						
Aroclor 1016	<1	<1	<100	<100	<100	<5
Aroclor 1221	<1	<1	<100	<100	<100	<5
Aroclor 1242	<1	<1	<100	<100	<100	<5
Aroclor 1248	1	1	<100	<100	<100	50
Aroclor 1254	<1	<1	<100	<100	<100	5
Aroclor 1260	1	12	5280	4750	3670	124

*Sample #2003 was collected as a sediment sample, as the designated wipe location was disintegrated concrete, units of measure mg/kg.

TABLE F-11
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
ANALYTICAL RESULTS
GROUNDWATER SAMPLING

SAMPLE I.D. MONITORING WELL DATE	3000 MW-D 5/13/87	3001 MW-C 5/13/87	3002 MW-A 5/13/87	3003 MW-B 5/13/87
<u>PARAMETER mg/l</u>				
Aluminum, Total	0.222	0.070	0.115	0.111
Antimony, Total	<0.020	<0.020	<0.020	<0.020
Arsenic, Total	<0.004	<0.004	<0.004	<0.004
Barium, Total	0.069	<0.050	<0.050	<0.050
Beryllium, Total	<0.001	<0.001	<0.001	<0.001
Cadmium, Total	0.041	0.010	0.013	<0.003
Calcium, Total	90.1	85.6	85.7	78.2
Chromium, Total	<0.020	<0.020	<0.020	<0.020
Cobalt, Total	<0.020	<0.020	<0.020	<0.020
Copper, Total	<0.020	<0.020	<0.020	<0.020
Iron, Total	1.40	0.387	0.421	0.567
Lead, Total	0.07	0.05	0.07	0.05
Magnesium, Total	30.2	30.6	27.6	23.0
Manganese, Total	0.018	0.018	0.014	0.032
Mercury, Total	<0.0005	<0.0005	<0.0005	<0.0005
Nickel, Total	0.023	<0.020	<0.020	<0.020
PCBs, Total	<0.001	<0.001	<0.001	<0.001
Aroclor 1016	<0.001	<0.001	<0.001	<0.001
Aroclor 1221	<0.001	<0.001	<0.001	<0.001
Aroclor 1242	<0.001	<0.001	<0.001	<0.001
Aroclor 1248	<0.001	<0.001	<0.001	<0.001
Aroclor 1254	<0.001	<0.001	<0.001	<0.001
Aroclor 1260	<0.001	<0.001	<0.001	<0.001
Potassium, Total	2.4	2.8	2.8	2.1
Selenium, Total	<0.004	<0.004	<0.004	<0.004
Silver, Total	<0.030	<0.030	<0.030	<0.030
Sodium, Total	27.1	47.4	29.3	19.1
Thallium, Total	<0.010	<0.010	<0.010	<0.010
Tin, Total	1.50	<1.00	<1.00	<1.00
Vanadium, Total	<0.010	<0.010	<0.010	<0.010
Zinc, Total	0.129	0.030	0.062	0.038
<u>VOLATILE COMPOUNDS ug/l</u>				
1,1,1-Trichloroethane	<5	<5	<5	10
<u>SEMI-VOLATILE COMPOUNDS</u> ug/l	ND	ND	ND	ND

ND- None detected.

TABLE F-11 (continued)
 VANTRAN ELECTRIC CORPORATION
 PRELIMINARY ASSESSMENT
 ANALYTICAL RESULTS
 GROUNDWATER SAMPLING

SAMPLE I.D. MONITORING WELL DATE	3000 MW-D 5/13/87	3001 MW-C 5/13/87	3002 MW-A 5/13/87	3003 MW-B 5/13/87
<u>UNKNOWN/TENATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS</u> Est. Concentrations (µg/l)				
Unknown	13	3.8	9.9	6.7
Unknown	64**	81**	47**	29**
Unknown	20**	20**	14**	17**
Unknown	13**	24**	9**	13**

ND - None detected.

** - Detected in lab blank.

TABLE F-12
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
SAMPLING/ANALYTICAL RESULTS
DECONTAMINATION RINSATE

SAMPLE I.D. DRUM # DATE	3004 1 5/14/87	3005 2 5/14/87	3006 3 5/14/87	3007 8 5/14/87	3008 5 5/14/87	3009 9 5/14/87	3010 10 5/14/87
<u>PARAMETER mg/l</u>							
Aluminum, Total	0.388	0.099	0.045	0.217	0.067	<0.030	<0.030
Antimony, Total	<0.020	<0.020	<0.020	0.063	<0.020	<0.020	0.034
Arsenic, Total	<0.004	<0.004	<0.010(3)	<0.010(3)	<0.010(3)	<0.004	<0.010(3)
Barium, Total	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Beryllium, Total	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium, Total	0.007	0.065	0.006	0.007	0.006	0.005	0.005
Calcium, Total	60.3	12.8	14.3	45.9	39.5	43.0	18.6
Chromium, Total	0.063	<0.020	<0.020	<0.020	<0.020	0.021	<0.020
Cobalt, Total	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Copper, Total	0.027	0.040	<0.020	0.028	0.030	<0.020	<0.020
Iron, Total	<0.030	0.304	0.526	0.626	1.17	0.064	0.186
Lead, Total	0.05	0.05	0.05	0.10	0.05	0.05	0.05
Magnesium, Total	<0.200	4.19	18.7	12.7	25.4	0.300	17.3
Manganese, Total	<0.010	<0.010	0.088	0.108	0.155	<0.010	0.115
Mercury, Total	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Nickel, Total	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
PCBs, Total Detectable	0.002	0.027	<0.001	0.227	<0.001	<0.001	0.342
Aroclor 1016	<0.001	<0.001	<0.001	<0.1	<0.001	<0.001	<0.1
Aroclor 1221	<0.001	<0.001	<0.001	<0.1	<0.001	<0.001	<0.1
Aroclor 1242	0.001	0.013	<0.001	0.148	<0.001	<0.001	0.124
Aroclor 1248	<0.001	<0.001	<0.001	<0.1	<0.001	<0.001	<0.1
Aroclor 1254	<0.001	<0.001	<0.001	<0.1	<0.001	<0.001	<0.1
Aroclor 1260	0.001	0.014	<0.001	0.079	<0.001	<0.001	0.218
Potassium, Total	25	15	22	16	16	23	5.6
Selenium, Total	<0.004	<0.004	<0.010(3)	<0.010(3)	<0.010(3)	<0.004	<0.010(3)
Silver, Total	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Sodium, Total	163	603	508	869	800	118.2	506
Thallium, Total	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Tin, Total	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Vanadium, Total	0.016	0.045	<0.010	0.034	0.010	0.013	0.017
Zinc, Total	0.014	0.227	0.434	1.94	4.23	0.042	0.784

3) Severe matrix interference.

TABLE F-12 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
SAMPLING/ANALYTICAL RESULTS
DECONTAMINATION RINSATE

SAMPLE I.D. DRUM # DATE	3004 1 5/14/87	3005 2 5/14/87	3006 3 5/14/87	3007 8 5/14/87	3008 5 5/14/87	3009 9 5/14/87	3010 10 5/14/87
<u>UNKNOWN/TENTATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS</u> Est. Concentrations (µg/l)							
Trichlorobenzene	-	-	-	46	-	-	-
Tetrachloro Benzene	-	-	-	51	-	-	-
Trichloro-1,1'-Biphenyl	-	-	-	28	-	-	-
Trichloro-1,1'-Biphenyl	-	-	-	30	-	-	-
Pentachloro-1,1'-Biphenyl	-	-	-	43	-	-	-
Pentachloro-1,1'-Biphenyl	-	-	-	41	-	-	250
Hexachloro-1,1'-Biphenyl	-	-	-	53	-	-	-
Hexachloro-1,1'-Biphenyl	-	-	-	65	-	-	-
Hexachloro-1,1'-Biphenyl	-	-	-	23	-	-	-
Aroclor 1254	-	-	-	27	-	-	-
Aroclor 1254	-	-	-	44	-	-	-
Aroclor 1254	-	-	-	49	-	-	250
Hexachloro-1,1'-Biphenyl	-	-	-	21	-	-	180
Heptachloro-1,1'-Biphenyl	-	-	-	20	-	-	-
Heptachloro-1,1'-Biphenyl	-	-	-	18	-	-	-
Octachloro-1,1'-Biphenyl	-	-	-	-	8	-	-
Propyltolyl Benzene	-	-	-	-	7.9	-	-
Pentyl Heptyl Benzene	-	-	-	-	12	-	-
Butyltolyl Benzene	-	-	-	-	8.5	-	-
Butyl Nonyl Benzene	-	-	-	-	-	5.9	1000
Unknown	-	-	-	-	-	7.1	200
Unknown	-	-	-	-	-	8.0	160
Unknown	-	-	-	-	-	-	590
Unknown	-	-	-	-	-	-	310
Unknown	-	-	-	-	-	-	210
Unknown	-	-	-	-	-	-	310
Unknown	-	-	-	-	-	-	200
Unknown	-	-	-	-	-	-	180
Unknown	-	-	-	-	-	-	560
Unknown	-	-	-	-	-	-	250
Unknown	-	-	-	-	-	-	160
Octamethyl-Cyclotetrasiloxane	-	-	-	-	-	-	-
Decamethyl-Cyclopentasiloxane	-	-	-	-	-	-	-
Dodecamethyl-Cyclohexasiloxane	-	-	-	-	-	-	-

TABLE F-12 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
SAMPLING/ANALYTICAL RESULTS
DECONTAMINATION RINSATE

SAMPLE I.D. DRUM # DATE	3004 1 5/14/87	3005 2 5/14/87	3006 3 5/14/87	3007 8 5/14/87	3008 5 5/14/87	3009 9 5/14/87	3010 10 5/14/87
<u>VOLATILE COMPOUNDS ug/l</u>							
Acetone	2000	12000	22000	490	47000	<1000	1900
Toluene	1000	<500	<500	<25	<250	<500	98
Chlorobenzene	<500	<500	<500	<25	<250	<500	78
<u>UNKNOWN/TENATIVELY IDENTIFIED VOLATILE COMPOUNDS</u> Est. Concentrations (µg/l)							
2-Propanol	23000	1900	9600	ND	12000	43000	ND
2-Butoxyethanol	ND	ND	ND	ND	ND	ND	150
<u>SEMI-VOLATILE COMPOUNDS ug/l</u>							
Phenol	18	<10	<10	<10	<10	<10	<10
Benzyl Alcohol	[5.3]	12	<10	<10	[3]	<10	<10
Naphthalene	[9.1]	[4]	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine (1)	[4.6]	<10	<10	[4]	[3]	<10	<10
Benzoic Acid	<50	[23]	<50	<50	<50	<50	<50
Bis(2-Ethylhexyl) Phthalate	<10	50	27	10	17	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	[4]	<10	<10	[8.7]
1,4-Dichlorobenzene	<10	<10	<10	76	<10	<10	160
1,2-Dichlorobenzene	<10	<10	<10	[4]	<10	<10	[7.0]
1,2,4-Trichlorobenzene	<10	<10	<10	41	<10	<10	46
Butyl Benzyl Phthalate	<10	<10	<10	[9]	13	<10	<10
Di-N-Butyl Phthalate	<10	<10	<10	<10	[4]	<10	<10

ND - None detected.
[] - Estimated value less than detection limit.

TABLE P-12 (continued)
VANTRAN ELECTRIC CORPORATION
PRELIMINARY ASSESSMENT
SAMPLING/ANALYTICAL RESULTS
DECONTAMINATION RINSATE

SAMPLE I.D. DRUM # DATE	3004 1 5/14/87	3005 2 5/14/87	3006 3 5/14/87	3007 8 5/14/87	3008 5 5/14/87	3009 9 5/14/87	3010 10 5/14/87
<u>UNKNOWN/TENTATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS</u>							
Est. Concentrations (µg/l)	5.8	-	-	-	-	-	-
Ethyl Benzene	66	-	-	-	-	-	-
Xylene	35	-	-	-	-	-	-
Xylene	8.9	-	-	-	-	-	-
Xylene	5.3	-	-	-	-	-	-
2-Butoxyl Ethanol	42	18	-	-	-	-	-
Ethyl Methyl Benzene	11	-	-	-	-	-	-
Trimethyl Benzene	6.7	27	19	-	11	30	-
Trimethyl Benzene	7.5	-	-	-	-	-	-
2-Ethyl-1-Hexanol	7.7	-	-	-	-	-	-
Methyl (Methyl Ethyl) Benzene	27	-	-	-	-	-	-
Unknown Benzene	16	-	-	-	-	-	-
2-Ethyl Hexanoic Acid	18	16	22	-	14	-	-
2-(2-Butoxy Ethoxy)-Ethanol	8.3	-	-	-	-	-	-
Benzothiazole	8.4	-	-	-	-	-	-
4-Hydroxy-3-Methoxy- Benzaldehyde	7.8	-	23	-	-	-	-
Dodecanoic Acid	33**	63	8.5	31**	8	84**	530
Hexadecanoic Acid	6.9	46	54**	51**	60	7.3	370
Unknown	20**	49**	72**	-	8.6	42**	1200
Unknown	12**	74**	15**	-	35	5.5**	470
Unknown	-	31	-	-	-	-	-
Unknown	-	25	-	-	-	-	-
Dimethyl Benzene	-	28	-	-	-	-	-
Decane	-	21	16	34	14	-	-
Undecane	-	15	-	-	9.1	-	-
Methyl Decyl Benzene	-	18	15	-	13	-	-
Propyl Nonyl Benzene	-	43	24	42	24	-	-
Ethyl Decyl Benzene	-	16	-	-	-	-	-
Methyl Undecyl Benzene	-	15	-	-	-	-	-
Ethylundecyl Benzene	-	15**	-	-	-	-	-
Methyl Dodecyl Benzene	-	26	-	-	7.7	4.6	690
Unknown	-	-	-	-	-	4.3	610
Unknown	-	-	-	-	-	-	-

From PRIL Contam Assess

VT & Co

V.T.I.

Results

Baker/TSA
MN 87

Tabulated analytical results for the preliminary contaminant assessment are included in Appendix F. General results are categorized as follows.

Metals -

Lead and zinc were detected in the soils of the surface impoundment area. Concentrations are progressively lower as depth increases, dropping off considerably at depths below eight to ten feet.

At other boring locations, concentrations of lead and zinc are present in the upper one to three feet of soil, and the levels also attenuate as depth increases.

Low levels of cadmium are present in the upper one to three feet of soil at all sampling locations.

These results are essentially the same as those which were reported in the preliminary site screening assessment which was conducted in October 1985.

PCBs -

Polychlorinated biphenyls (PCBs) were detected in the upper three feet of the surface impoundment soils. Lower levels were detected to a depth of eight to ten feet.

At other soil boring locations, various levels of PCBs were detected, but these concentrations are generally confined to the upper three feet of soil.

Again, these data substantiate the results of the earlier study.

Organics -

A variety of organic compounds were detected in the soils of the surface impoundment. In general, the concentrations of these compounds attenuate with increasing depth. At the other boring locations, a few organic compounds were detected at a variety of

depths. Typically, the greatest concentrations are present at the surface and attenuate with increasing depth.

Groundwater - Groundwater samples collected at the site appear to be relatively contaminant free. Very low levels of lead were detected as well as several unknown organic constituents. The presence of these unknown organics are highly suspect, however, as they were also detected in the laboratory blanks. This strongly implies that this contamination has been introduced from another source, such as sampling or laboratory induced contamination.

Conclusion

The results of this study have verified the results of the previous study. In general, soil contamination at the site appears to be limited to the upper three feet of soil with attenuation at greater depths.

Groundwater downgradient from the site is essentially contaminant-free, and therefore, groundwater does not appear to be a pathway for contaminant transport at this time.

DATE: 3-17-87

TO: RCRA Files

RE: Preliminary Review - Van Tran Electric, Vandalia, Illinois

From: Kevin J. Moss

GENERAL DESCRIPTION

The Van Tran Electric site in Vandalia, Illinois is presently shut down with no immediate plans for future operations (The Van Tran HQ facility in Waco, Texas is handling the Vandalia site affairs). Van Tran used to manufacture 5 to 5000 KV transformers and operate a warranty repair section for their products. Van Tran operated at this site from 1964 to September of 1987. The facility consists of: two main buildings and two smaller buildings, and three outdoor tanks used for storage of transformer oil, with capacities of 575, 6000, and 8000 gallons. Another outdoor tank, with a capacity of 1500 gallons, stores used transformer oil and is equipped with a water/oil separation unit. One of the buildings is a spray booth used to paint both newly manufactured and reconditioned transformers.

WASTES

PCB's and various solvents (MEK, xylenes, toluene) appear to be the only wastes generated on site. The PCB's were not intended to be regarded as wastes, but through improper handling techniques (TSCA violations) and a major spill, the site has become contaminated with them. Nearly the entire facility is contaminated with varying amounts of solvents and PCB's (attachment 1). PCB's have also been determined to have migrated off-site through surface drainage (attachment 1). It has not yet been determined if the groundwater has been contaminated.

Trichloroethane Methyl Chloroform and Methylene Chloride were used to clean barrels and I have not been able to determine how these wastes were disposed or if they have been analyzed for.

SWMU

The most visible, and SWMU of highest concern, is a 10' "evaporation pit". For approximately 13 years (pre-1985) Van Tran disposed of their solvents and waste paints (lead) in this pit, by allowing them to "evaporate". Van Tran had a couple of their employees dig up the top two feet of soil and drum the soil, for eventual disposal, just prior to an IEPA inspection. Confidentially, an employee reported this activity because of health concerns. No safety measures were taken by Van Tran during this minor excavation. IEPA inspectors noted a strong solvent odor coming from these stored drums. Regardless of this excavation, solvent concentrations in this pit are in the 10E4 range and PCB's in the 10E3 range. I assume the PCB contamination resulted from using emptied PCB drums to store solvents which were later emptied into the pit. The pit had been filled in and sodded by Van Tran. A fence has been constructed around this area.

The spill of PCB's mentioned earlier, was a 14000 gallon

spill from two tanks. Although this is not a SWMU, but a product spill, it needs to be addressed. The tanks held mineral oil, apparently containing PCB's. There are no details of how or why this spill occurred. Reportedly, ^{Spill} the facility workers were on strike during the spill. If the strike resulted, directly or indirectly, with this spill is not known. *because of the strike is over.*

There is a drum storage area containing the drummed material excavated from the pit and decontamination materials from the sampling and monitoring well installation conducted at the site.

There are the three product storage tanks which need to be addressed and the waste transformer oil tank.

There are two underground storage tanks; a 1000 gallon diesel storage tank and a 500 gallon gasoline storage tank.

GROUNDWATER/GEOLOGY

A groundwater monitoring system is in place at the site. Negotiations are presently underway between Van Tran and IEPA over deficiencies in this system. Groundwater analyzes show no contamination at present. However, one of the deficiencies noted by the IEPA was that the wells were placed too far away to ~~immediately~~ detect a release.

properly
REGULATORY STATUS

The facility is closed and inactive. Van Tran is not seeking a permit and they did not submit either a part A or a part B. Nor did Van Tran submit the SWMU certification. At the State level there was a circuit court agreement to address contamination assessment at the site. This assessment is expected to be completed by the end of July. Additionally, there is an IEPA internal evaluation concerning the removal of the contamination and an immediate removal action including closure.

SUMMARY

The Van Tran facility is in need of corrective action. It now appears that the IEPA closure/removal action will address the entire facility. A VSI will still be conducted at the facility. After the VSI it will have to be determined if the State action is sufficient to address the entire facility, or if a 2008H order will be needed.


18

Attachment 2

+ HAS

FAYETTE Co. GENERAL

EPA		POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT PART 1 - SITE INFORMATION AND ASSESSMENT		I. IDENTIFICATION	
		01 STATE	02 SITE NUMBER		
		IL	NEW SITE		
II. SITE NAME AND LOCATION					
01 SITE NAME (Legal, common, or descriptive name of site)		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER			
Van Tran Electric Corporation		1505 Van Tran Avenue			
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Vandalia	IL	62471	Fayette	051	
09 COORDINATES		10 DIRECTIONS TO SITE (Starting from nearest public road)			
LATITUDE 38 58 36.0		LONGITUDE 089 06 43.0			
		Vandalia, IL. Quad 217 A			
SEE ATTACHED MAPS.					
III. RESPONSIBLE PARTIES					
01 OWNER (If known)		02 STREET (Business, mailing, residential)			
Van Tran Electric Corporation		7711 Imperial Drive			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER		
Waco	Tx	76710	(817) 772-9776		
07 OPERATOR (If known and different from owner)		08 STREET (Business, mailing, residential)			
Same					
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER		
			()		
13 TYPE OF OWNERSHIP (Check one)					
<input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL: _____ (Agency name) <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER: _____ (Specify) <input type="checkbox"/> G. UNKNOWN					
14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)					
<input type="checkbox"/> A. RCRA 3001 DATE RECEIVED: _____ MONTH DAY YEAR <input type="checkbox"/> B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: _____ MONTH DAY YEAR <input checked="" type="checkbox"/> C. NONE					
IV. CHARACTERIZATION OF POTENTIAL HAZARD					
01 ON SITE INSPECTION		BY (Check all that apply)			
<input checked="" type="checkbox"/> YES DATE 11/12/75 MONTH DAY YEAR <input type="checkbox"/> NO		<input checked="" type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify)			
		CONTRACTOR NAME(S): _____			
02 SITE STATUS (Check one)		03 YEARS OF OPERATION			
<input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		BEGINNING YEAR _____ ENDING YEAR _____ <input checked="" type="checkbox"/> UNKNOWN			
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED					
PCB's, Solvents, oily waste Soluble, Toxic Persistent					
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION					
Ground Water (population, environment) Surface Water (environment)					
V. PRIORITY ASSESSMENT					
01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste information and Part 3 - Description of Hazardous Conditions and Incidents)					
<input type="checkbox"/> A. HIGH (inspection required promptly) <input checked="" type="checkbox"/> B. MEDIUM (inspection required) <input type="checkbox"/> C. LOW (inspect on time available basis) <input type="checkbox"/> D. NONE (No further action needed, complete current disposition form)					
VI. INFORMATION AVAILABLE FROM					
01 CONTACT		02 OF (Agency/Organization)		03 TELEPHONE NUMBER	
Howard Trindall		Plant Manager		(618) 293-3220	
04 PERSON RESPONSIBLE FOR ASSESSMENT		05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Kenneth Page		I.E.P.A	HSCS	(217) 7826760	04/01/85 MONTH DAY YEAR

 POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT		I. IDENTIFICATION 01 STATE IL 02 SITE NUMBER NEW SITE	
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS			
II. HAZARDOUS CONDITIONS AND INCIDENTS			
01 <input type="checkbox"/> A. GROUNDWATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: <u>5,338</u>		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input checked="" type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION <p style="margin-left: 40px;"><i>Inadequate handling of PCB's containing materials, some can and will be lost to the environment.</i></p>	
01 <input type="checkbox"/> B. SURFACE WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: <u>N/A</u>		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input checked="" type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION <p style="margin-left: 40px;"><i>Discharged water contaminated with PCB's. No NPDES permit.</i></p>	
01 <input type="checkbox"/> C. CONTAMINATION OF AIR 03 POPULATION POTENTIALLY AFFECTED: _____		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION	
01 <input type="checkbox"/> D. FIRE/EXPLOSIVE CONDITIONS 03 POPULATION POTENTIALLY AFFECTED: _____		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION	
01 <input type="checkbox"/> E. DIRECT CONTACT 03 POPULATION POTENTIALLY AFFECTED: _____		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION	
01 <input type="checkbox"/> F. CONTAMINATION OF SOIL 03 AREA POTENTIALLY AFFECTED: _____ (Acres)		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input checked="" type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION <p style="margin-left: 40px;"><i>"See A above"</i></p>	
01 <input type="checkbox"/> G. DRINKING WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: _____		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION	
01 <input type="checkbox"/> H. WORKER EXPOSURE/INJURY 03 WORKERS POTENTIALLY AFFECTED: _____		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION	
01 <input type="checkbox"/> I. POPULATION EXPOSURE/INJURY 03 POPULATION POTENTIALLY AFFECTED: _____		02 <input type="checkbox"/> OBSERVED (DATE: _____) <input type="checkbox"/> POTENTIAL <input type="checkbox"/> ALLEGED 04 NARRATIVE DESCRIPTION	

EXECUTIVE SUMMARY

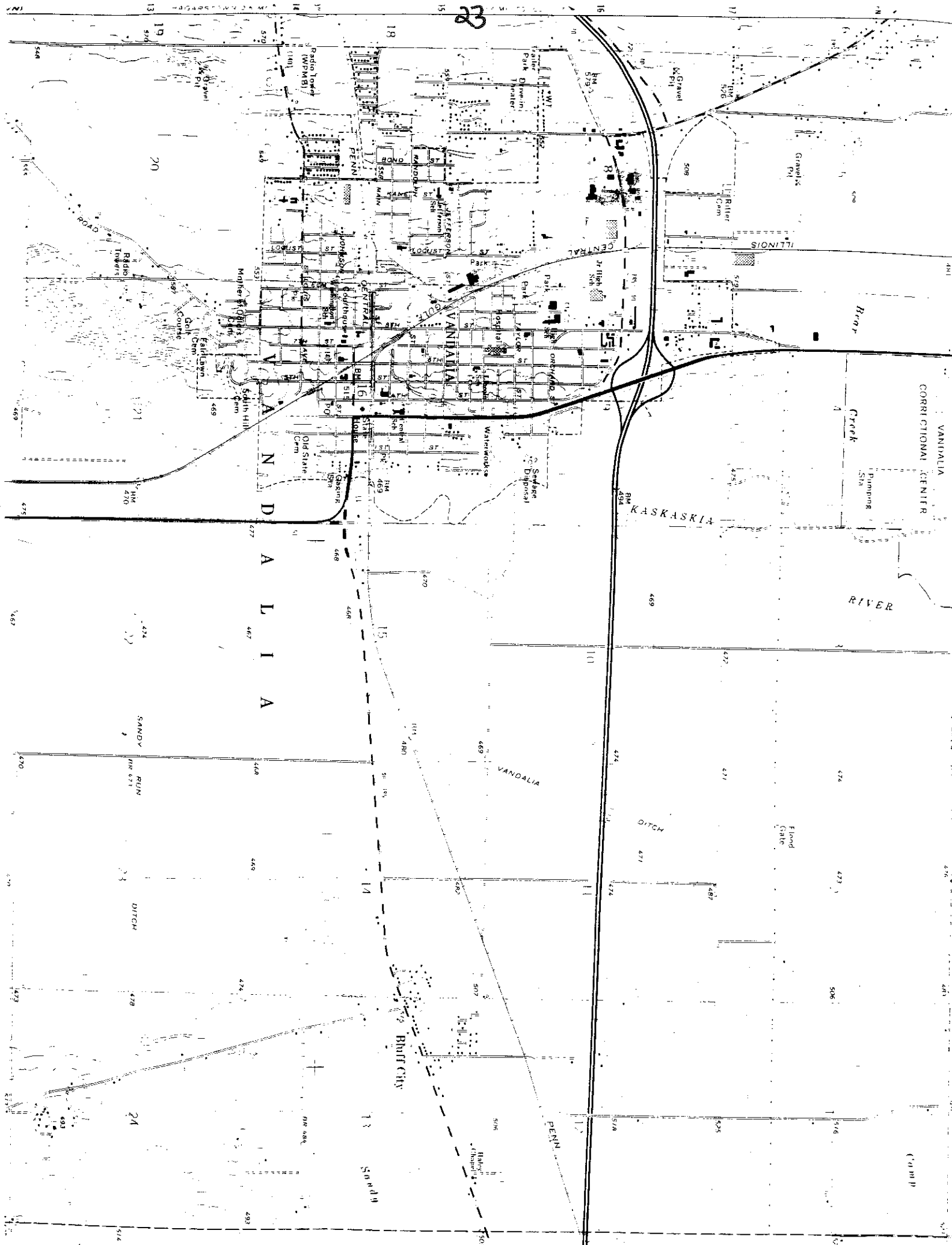
Van Tran Electric Corporation located at 1505 Van Tran Avenue in Vandalia, Illinois and Fayette County. This company manufactured transformers.

On November 12, 1975 the United States Environmental Protection Agency conducted an inspection of the above site to review their methods of handling PCB's. USEPA found that the company's method for handling materials containing PCB's (askarel) were inadequate for prevention of loss to the environment. The PCB contaminated drums are used for storing paint thinners and waste paint. Other drums are used for storage of materials after the tops are cut off and the inside is wiped clean with two solvents; 55% trichloroethane Methyl Chloroform and 45% Methylene Chloride. The askarel and solvent mixture is shipped to Georgia for processing. The used rags are not salvaged.

The USEPA concluded that the plant should discontinue using uncleaned askarel drums for paint thinner and paint waste storage and the cleaning rags should be returned with the askarel to Georgia for processing.

All of the information within this preliminary assessment was obtained from an inspection done by USEPA on November 12, 1975. The author suggests that this new site be added to the ERRIS List and a medium priority for inspection is given because of the high potential for ground and surface contamination.

KP:mkb:S/109



23

24

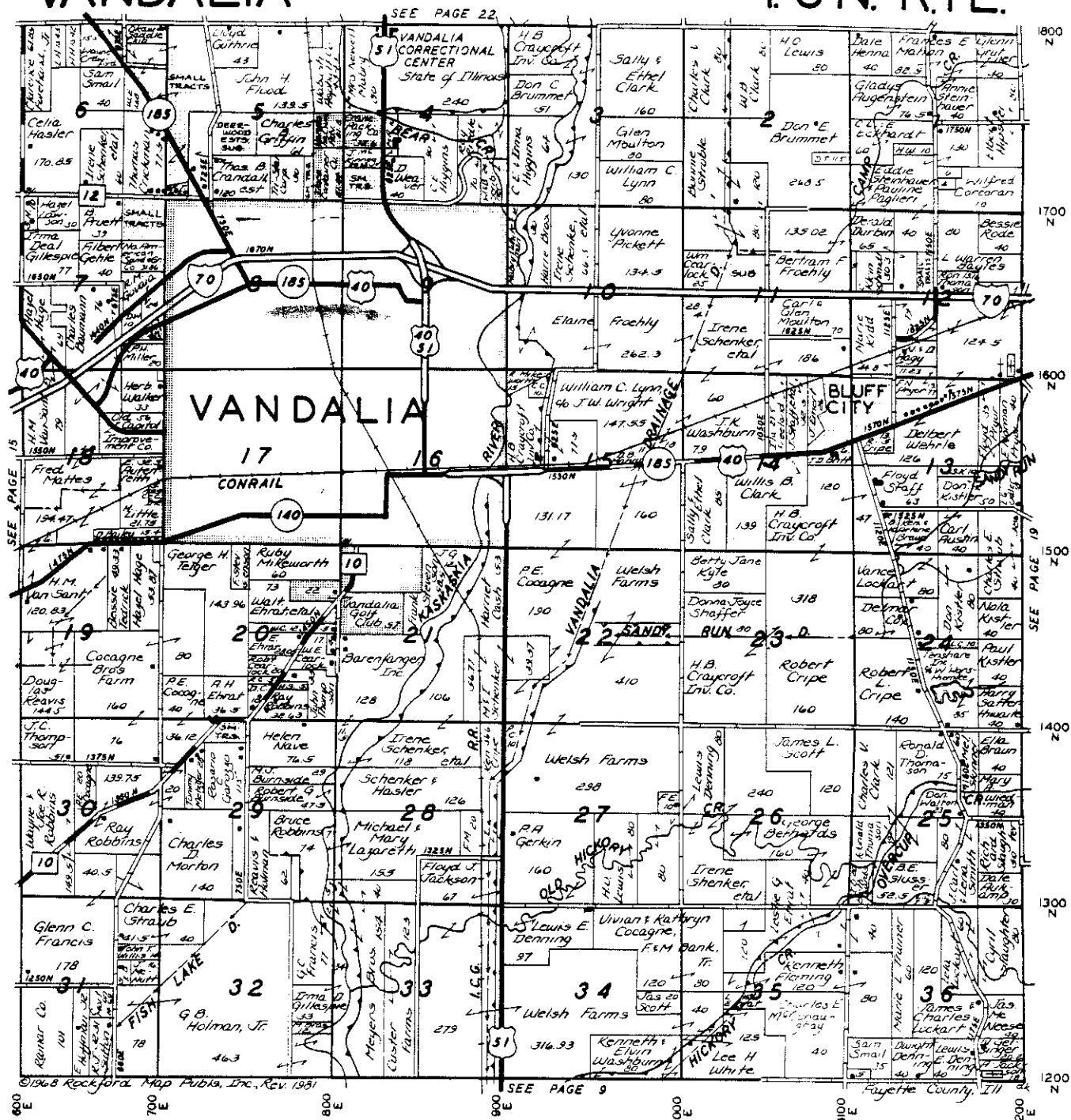
A hand-drawn map of Lake Vandalia. The lake is the central feature, with several roads and points of interest labeled around it. At the top, 'LAKE VANDALIA' is written. To the left, 'LAKE VIEW' is marked with an arrow. Below that, 'LAKE WOOD DR' is labeled. To the right, 'BEAR CREEK DR' is labeled. In the center, 'LAKE PLAZA DR' is labeled. Below that, 'SPRING DR' is labeled. To the right of the lake, 'LAKE RIDGE DR' is labeled. Below that, 'GREENHOCK DR' is labeled. At the bottom, 'SASTON DR' is labeled. To the left of the lake, 'LAKE VANDALIA' is labeled. To the right, 'LAKE VANDALIA' is labeled. The map is oriented with North at the top.



Postal ZIP Code Information
ZIP Code 62471
For additional Zip Code information
see Zip Code pages or call 283-0328.

 Village or City Boundary

0 1 2
MILE



FACILITY MANAGEMENT PLAN APPROVAL

Facility Name VAN TRAN ELECTRIC

EPA ID Number ILD 981 093 628

Facility Location VANDALIA

Date Received from State 5/30/86

Date TPS Review 6/30/86

Date HWEB Review 7/2/86

Date ERRB Review N/A

The Facility Management Plan for this facility is

☐ Corrective Action Order

☐ Action involving ERRB

☐ RCRA permit

☒ Other RFA

Brief narrative USEPA RFA (9/87)

CONTINUE STATE ENFORCEMENT +

STATE ~~SCRAP~~ SCRAP ACTIONS

CLOSING / POST-CLOSURE PERMIT LIKELY REQUIRED

Based on my review, this FMP is hereby approved

Signature [Signature]
(EPA TPS staff)

Date 7/2/86

DATES
ADDED
8-12-86

Name of Preparer: Linda Kissinger & Bruce Carlson
Date: 5/6/86

Model Facility Management Plan

CONFIDENTIAL
[Signature]
RECEIVED

JUN 04 1986

SOLID WASTE BRANCH
U.S. EPA, REGION V

1. Facility Name: Van Tran Electric Corporation

2. Facility I.D. Number: ILD981093628

3. Owner and/or Operator: Van Tran Electric Corporation

4. Facility Location: 1505 Van Tran Avenue
Street Address

<u>Vandalia</u>	<u>Fayette</u>	<u>Illinois</u>	<u>62471</u>
City	County	State	Zip Code

5. Facility Telephone (if available): (618) 283-3220

6. Interim Status and/or Permitted Hazardous Waste Units and Capacities of Each Unit: Non-Filer - Part A - inspections have identified a surface impoundment and container storage

<u>Type of Units</u>	<u>Size or Capacity</u>	<u>Active or Closed</u>
<u>Storage in Tanks or Containers</u>		
<u>Incinerator</u>		
<u>Landfill</u>		
<u>Surface Impoundment</u>		
<u>Waste Pile</u>		
<u>Land Treatment</u>		
<u>Injection Wells</u>		
<u>Others (Specify)</u>		

7. Permit Application Status: N/A (HWDMS action item number)

8. Identification of Hazardous Waste Generated, Treated, Stored or Disposed at the Facility: (may attach Part A or permit list or reference those documents if listing of wastes is exceptionally long - in that case, to complete this question list wastes of greatest interest and/or quantity and note that additional wastes are managed)

<u>Type of Waste</u>	<u>Quantity</u>	<u>Generated, Treated, Stored or Disposed</u> <u>(note appropriate categories)</u>
PCBs	Unknown	Disposed in surface impoundment and soil
Lead Paint	Unknown	Disposed in surface impoundment and soil
MEK	Unknown	Disposed in surface impoundment and soil
Toluene	Unknown	Disposed in surface impoundment and soil
Xylene	Unknown	Disposed in surface impoundment and soil
Solvents	Unknown	Disposed in surface impoundment and soil

9. Review of Response to Solid Waste Management Questionnaire indicates: (check one) -
NONE RECEIVED - INITIAL SCREENING DONE 1/16/86

_____ Solid Waste Management Units exist (other than previously identified RCRA units)

_____ No Solid Waste Management Units exist (other than previously identified RCRA units)

_____ It is unclear from review of questionnaire whether or not any solid Waste Management Units exist

_____ Respondent indicates that does not know if any Solid Waste Management Units exist

10. If the response to question 9 is that Solid Waste Management Units exist, than check one of the following:

N/A

_____ Releases of hazardous waste or constituents have occurred or are thought to have occurred

_____ Releases of hazardous waste or constituents have not occurred

_____ Releases of hazardous waste or constituents have occurred or are thought to have occurred but have been adequately remedied

_____ It is not known whether a release of hazardous waste or constituents has occurred

11. The facility is on the National Priorities List or proposed update of the List or ERRIS list

_____ Yes - indicate List or update

 X No

 X Yes - ERRIS list

Prior to completion of the Recommendation portion of the Facility Management Plan, the attached Appendix must be completed.

12. Recommendation for Regional Approach to the Facility: Check one

_____ Further Investigation to Evaluate Facility

_____ Permit Compliance Schedule

_____ Corrective Action Order (may include compliance schedule)

 X Other Administrative Enforcement See Executive Summary

_____ Federal Judicial Enforcement

_____ Referral to CERCLA for Federally Financed or Enforcement Activity

_____ Voluntary/Negotiated Action

 X State Action Closure Under 725

Brief narrative in explanation of selection : _____

a) If further investigation alternative is selected:

_____ Site inspection - anticipated inspection date _____

State or Federal inspection _____

_____ Preliminary Assessment - anticipated completion date _____

_____ RI/FS - anticipated date of initiation _____

State/Federal _____

Private Party _____ identify party(ies)

b) If Permit Alternative is Selected: Projected Schedule

Date of Part B Submission: _____

Date of Completeness Check: _____

Date for Additional Submissions (if required): _____

Date of Completion of Technical Review: _____

Completion of Draft Permit/Permit Denial: _____

Public Notice for Permit Decision: _____

Date of Hearing (if appropriate): _____

Date for Final Permit or Denial Issuance: _____

Description of any corrective action provisions to be included in permit -

c) If Corrective Action Order Alternative is Selected:

Estimated Date for Order Issuance: _____

Description of Provisions of the Order to be Completed by
Facility: _____

Description of Compliance Schedule to be Contained in Order:

d) If Other Administrative Enforcement Action is Selected:

Projected Date for Issuance of the Order: _____

Description of Provisions or Goals of the Order: _____

e) If Judicial Enforcement Alternative Selected:

Date of Referral to Office of Regional Counsel: _____

f) If Referral to CERCLA for Action Selected:

Date of Referral to CERCLA Sections: _____

g) If Voluntary/Negotiated Action Alternative if Selected:

Date of Initial Contact with Facility: _____

Description of Goals of Contact or Discussions with
Facility: _____

Date for Termination of Discussions if Not Successful:

Date of Finalization of Settlement if Negotiation Successful:

h) If State Action Alternative is Selected:

Date for Referral to State: _____

Name of State Contact: _____

Phone: _____

APPENDIX

The questions constituting this Appendix to the Facility Management Plan must be filled out prior to completion of recommendation elements of the Plan. The purpose of this appendix is to provide a summary documentation of the State and/or U.S.EPA review of available information on the subject facility. The intent is that a comprehensive file review will be conducted as the basis for selection of the recommended approach to a given facility. If the Appendix is completed by State personnel questions referring to available data reference information in State files; for Federal personnel the reference is to Federal files. Where questions refer to "all" available data or information and such material is voluminous, the response should indicate that files are voluminous, and then reference most telling information, for example groundwater contaminants found frequently or at extremely high concentrations should be specifically listed, and information most directly supporting recommended approach to facility should be described. If no information is available in facility files, the response should so indicate. It is also anticipated that this Appendix may be updated periodically as more information becomes available.

1. Description of All Available Monitoring Data for Facility:

<u>Type of Data</u>	<u>Date</u>	<u>Author</u>	<u>Summary of Results or Conclusions</u>
CERCLA	06/03/85	IEPA	Storm water sample for PCBs and general organics.
CERCLA	10/03/85	IEPA	Soil sample for PCBs and general organics.

2. Description of Enforcement Status:

<u>Type of Action</u>	<u>Date</u>	<u>Local, State or Federal</u>	<u>Result or Status</u>
Enforcement Notice Letter	6/24/85	State	Progressed to a suit filed in Fayette Circuit Court against Van Tran on 02/19/86

3. Description of Any Complaints from Public:

<u>Source of Complaint</u>	<u>Date</u>	<u>Recipient</u>	<u>Subject and Response</u>
----------------------------	-------------	------------------	-----------------------------

NONE

4. Description of All Inspection Reports for Facility:

<u>Date of Inspection</u>	<u>Inspector</u> (Local, State, Federal)	<u>Conclusions or Comments</u>
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SEE ATTACHMENT 1

5. During inspection of this facility did the inspector note any evidence of past disposal practices not currently regulated under RCRA such as piles of waste or rubbish, injection wells, ponds or surface impoundments that might contain waste or active or inactive landfills?

_____ Yes - give date if inspection and describe observation

_____ X _____ No However, PCB contamination _____ Don't know
present in areas other than surface impoundment

6. Do inspection reports indicate observations of discolored soils or dead vegetation that might be caused by a spill, discharge or disposal of hazardous wastes or constituents?

 X Yes - indicate date of report and describe observations

July 16, 1985 Memo - samples of stormwater run-off ditch east of main building showed PCB contamination. Also, no vegetation growing in area north of shed where empty drums were stored.

 No

 Don't know

7. Do inspection reports indicate the presence of any tanks at the facility which are located below grade and could possibly leak without being noticed by visual observation?

 Yes - date of inspection and describe information in report

 X No Inspection reports do not indicate presence of underground tanks. However, field notes taken during 10/3/85 inspection reveal a
 Don't know 1000 gal. diesel storage tank and a 500 gal. gas storage tank, both underground.

8. Does a groundwater monitoring system exist at the facility? NO

9. If answer to question 8 is yes, is the groundwater system capable of monitoring both regulated RCRA units and other Solid Waste Management Units? N/A

Explain - _____

10. Is the groundwater monitoring system in compliance with applicable RCRA groundwater monitoring standards? NO

If no, explain deficiency _____

15. If answer to question 14 is yes, briefly describe conclusions of the PA/SI focusing on types of environmental contamination found, wastes and sources of contamination.

The PA raises concerns relative to a Nov. 12, 1975 USEPA inspection
identifying improper PCB handling techniques. The SI is incomplete
but is highly suspect of groundwater contamination by solvents, PCB
releases to soil on and off site, and PCB releases to surface water.

16. If available, having reviewed the CERCLA notification, RCRA Part A and RCRA Part B, it appears that: (CERCLA unit refers to unit or area of concern in CERCLA response activity)

 RCRA and CERCLA units are same at this facility

 RCRA and CERCLA units are clearly different units

 There is an overlap between the RCRA and CERCLA units
 (some are the same, some are different)

N/A - No RCRA units on Part A or Part B, no CERCLA notification.

17. Description of Any Past Releases or Environmental Contamination:

<u>Type/Source of Release</u>	<u>Date</u>	<u>Material Released</u>	<u>Quantity</u>	<u>Response</u>
soils and surface impoundment area contain paint wastes, PCBs and solvents	unknown	PCBs, paint wastes, solvents	unknown	some soil removed.

18. Identification of Reports or Documentation Concerning Each Release Described in Item 17.

<u>Title/Type of Report</u>	<u>Date</u>	<u>Author</u>	<u>Recipients</u>	<u>Contents</u>
-----------------------------	-------------	---------------	-------------------	-----------------

NONE

19. Highlight any information gaps in the file - describe any plans to obtain additional needed information.

No groundwater monitoring program exists for the surface impoundment

No SWMU certification from Van Tran

20. Summary of major environmental problems noted, desired solution and possible approaches.

<u>Problem</u>	<u>Solution</u>	<u>Approach</u>	<u>Pros and Cons</u>
disposal of hazardous waste in surface impoundment and on soil	close impoundment	Enforcement - RI/FS	

EXECUTIVE SUMMARY

Van Tran Electric manufactures 5 to 5000 KV transformers and operates a warranty repair section for their product. The company has been in business at its Vandalia site since 1964 and is headquartered in Waco, Texas. The facility includes two main buildings and two smaller buildings, and three outdoor tanks used for storage of transformer oil, with capacities of 575 gallons, 6,000 gallons and 8,000 gallons. Another outdoor tank with a capacity of 1,500 gallons stores used transformer oil, and is equipped with a separation unit used to remove water from the oil. One of the buildings is a paint spray booth used to paint both newly manufactured and reconditioned transformers.

A November, 1975 USEPA inspection found that Van Tran's methods of handling PCBs were inadequate for preventing their loss to the environment. Van Tran had no NPDES Permit and was discharging water with high PCB concentration. Askarel (PCB) drums were being used to store paint thinners and wastes. Other drums were used for material storage after the tops were cut off and the inside was wiped clean with Trichloroethane Methyl Chloroform 55% and Methylene Chloride 45% solvent. Two above ground outdoor tanks containing 14,000 gallons of mineral oil with PCB's had released their entire contents. Soil samples from the on site drainage ditch indicated 1,500 ppm PCB's.

In August, 1981, a contractor for USEPA inspected Van Tran. In May, 1982, the USEPA filed an administrative complaint against VT for TSCA violations (failure to develop and maintain PCB records, failure to mark PCB containers). The total penalty proposed was \$16,000. The 1983 Consent Agreement outlined a testing, notification and compliance program for VT with a penalty settlement of \$1875.

Van Tran's facility came to IEPA attention as a result of preliminary inspection activities to identify potential Superfund sites. On May 30, 1985, a CERCLA and a RCRA inspector arrived and were told that headquarters advised VT to deny IEPA access and insist on a search warrant. Following consultation with VT's attorney, the inspection was arranged for a subsequent date after IEPA agreed to the condition that an advance written statement of the scope and intent of the inspection be provided to VT.

In June, 1985, the inspection took place. At the pre-inspection meeting VT stated that no activities at the facility involved the use or disposal of hazardous materials. During the tour, VT stated that thinners used to clean equipment were allowed to evaporate with the dried paint then going to a sanitary landfill. Filters were also landfilled. A waste pit (surface impoundment) about 10 foot in diameter was used to dispose of paint and spent solvent wastes (D001) by evaporation, constituting a hazardous waste storage surface impoundment. Samples of soil and wastes showed 21,000 mg/kg MEK, 35,000 mg/kg xylenes, 37,000 mg/kg toluene, and 221 mg/kg PCBs. Drums of solvents were stored outside the building. Stormwater around the PCB tanks had an oil sheen.

The 35 RCRA violations discovered during the inspection included the failure to notify of hazardous waste management activities, failure to analyze wastes before storage/disposal, failure to maintain records or train personnel, failure to take precautions to prevent ignition of ignitable wastes, failure to maintain a contingency plan, failure to properly monitor groundwater and failure to maintain freeboard in the surface impoundment. Four violations of the Illinois Environmental Protection Act were found related to water pollution, open dumping and RCRA permitting. Based on the above, an enforcement notice letter was sent June 24, 1985.

On July 20, 1985, DLPC-FOS talked with an employee of VT who confidentially provided the following information:

Dumping in the pit had gone on at least 13 years.

During that period all wastes were put in the pit til dry, then put into cardboard barrels and landfilled. The wastes from the transformer oil recycler were also put in cardboard barrels and landfilled.

OSHA was called by the employee because of concern for workers' health.

A few days before this contact, 2 employees dug out the pit with shovels to a depth of about 2 foot and placed 2 pickup truck loads of dirt over it. Employees complained of heavy fumes while digging.

None of the employees were trained to handle hazardous materials, they didn't know that they worked with such things and they did not use any safety equipment (not even gloves) when handling the materials.

On July 23, 1985, at an IEPA/Van Tran meeting was held to discuss the enforcement notice letter, VT was presented with a draft scope of work for an RI/FS. Van Tran did not provide the requested written commitment for compliance action following the meeting and the matter was referred to the AG August 14, 1985 with a penalty recommendation of \$65,000.

USEPA conducted a follow-up TSCA inspection on August 7, 1985 after obtaining an administrative search warrant. Samples were taken. USEPA subsequently indicated enforcement action was contemplated.

VT submitted notification to USEPA (RCRA) to obtain an ILD # on September 24, 1985.

A September 30, 1985 letter from VT's attorney to AG regarding the scope of a follow-up IEPA inspection stated that IEPA actions suggest harassment of VT and that it was preposterous to assume that the site presents a hazard.

An IEPA multi-media inspection was conducted October 3, 1985. Observations included:

Plant operations utilized 4 sources that require DAPC operating permits, which Van Tran lacked. VT was found to be in violation of 35 Ill. Adm. Code 201.144 and was sent permit applications, but completed applications have not been returned.

The purpose of this visit was a full ISS inspection. Van Tran stated that soil had been removed from the pit and drummed. A strong solvent odor was detected from the drums which were stored on site. The pit had been backfilled and sodded with no further dumping to occur.

Solvent and paint wastes from plant operations were then being drummed and solvent recycling filter media were being treated as hazardous waste.

IEPA requested that various waste streams be analyzed by VT to determine whether they are hazardous.

A Part A application had not been filed.

The drums of soil from the pit exceeded the 90 day accumulation time.

The pit had not undergone RCRA closure.

17 violations were observed and, in addition, Subpart F violations 725.190-194 had not been resolved.

The IEPA director signed a record of decision and 4q Notice on October 26, 1985. The called for RI would include a geologic/hydrogeologic study in the area, installation and sampling/analysis of groundwater monitoring wells, determination of the extent of contamination of the pit and off-site stream sampling. Cost estimate of proposed RI was \$250,000. The 4q Notice detailed findings and identified response actions, including a schedule for completion of tasks in the RI/FS Scope of Work with review/approval of work by the IEPA.

A meeting was held on December 16, 1985, between IEPA, the AG's office and Van Tran to discuss Van Tran's progress toward pursuing an RI/FS. According to the 4q Notice, VT was supposed to have completed Task 1 (Description of current situation) of the Statement of Work. Van Tran had not complied. Instead, VT's consultant had taken 2 core samples from the pit to a depth of 8 ft. They found lead, zinc and PCBs down to 8 ft. but proposed to initially remove soil from the pit to a depth of only 6 ft. Soil in the upper one foot of the pit was found to contain up to 2740 ppm of PCBs.

Van Tran failed to respond in writing regarding their commitment to undertake the work plan and they applied for a preliminary injunction against IEPA in Circuit Court (Fayette Co.) seeking to prevent IEPA from taking remedial action. The State responded by filing its Complaint in the Circuit Court on January 26, 1986 (Attachment 3) seeking injunctive relief and penalties for Land, Water, and Air Pollution violations. A preliminary injunction which would keep Van Tran from interfering with State access to the site for RI/FS activities was also sought in this Complaint. A hearing on both requests for preliminary injunction was held on January 30-31, 1986. In an order issued by the Circuit Court on April 8, 1986, a preliminary injunction was denied to both sides. Instead, the Court directed the parties to meet and attempt to reach agreement on the scope of a site study program within 120 days. To the extent agreement could not be reached, the Court would decide on the study scope. The Court's denial of a preliminary injunction to the State is being appealed to the Illinois Appellate Court, 5th Judicial District.

Stream sampling below the Van Tran property line was conducted by IEPA January 7, 1986 to verify off-site migration of PCBs. Four of the samples showed levels above detectable limits, ranging from 0.090 ppm to 260 ppm.

A groundwater monitoring program does not exist around the surface impoundment.

A closure plan was received on March 6, 1986 for the surface impoundment.

A SWMU certification has not been received but an initial screening was performed January 16, 1986.

A preliminary assessment was completed April 1, 1985, Attachment 2.

Recommendations:

1. Seek to effectuate closure of the surface impoundment and drum storage area under 35 IAC 725 with a schedule for coming into compliance with 725 Subpart F.
2. Proceed with existing litigation concerning the 4q RI/FS, RCRA, water, and air pollution violations.

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